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DIESEL RAILWAY TRACTION

The June issue of this RAILWAY GAZETTE publication, illustrating and describing developments in Diesel Railway Traction, will be ready on June 1, price 2s.

THE PROBLEM OF RAILWAY PASSENGER FARES AND TRAIN SERVICES

A suggested plan for equalising
passenger travel over both rail
and road services

BY J. H. LAUNDY

Formerly Audit Accountant, Southern Railway

PRICE ONE SHILLING

THE RAILWAY GAZETTE
33, TOTHILL STREET, WESTMINSTER, S.W.1

Costs, Profits, and Taxes

THE Chancellor of the Exchequer's strictures during the debate on the second reading of the Finance Bill on the "swollen profits of the inflationary period" made by industry in the last few years, must have been based on political rather than financial theory. He wanted prices reduced by cuts in profits so as to help the export drive. British manufacturers are already aware of the increasing need for reduced prices if overseas markets are to be captured, or even retained. They get little encouragement for their suggestion that the Government should cut expenditure and reduce taxation, which would result in lower production costs. The two greatest factors in costs of production at the present time are raw materials prices and wages bills. In many cases, raw materials prices are directly conditioned by Government buying or policy. The continued pressure by organised labour for higher wages is stimulated by such factors as high purchase tax and other taxation. The relationship of profit, the investor's and risk-taker's wage, to wages, materials, and taxation, is pitifully small. Did the Chancellor reflect on the effect, on the Exchequer's receipts from income tax and profits tax, of a substantial decline in business profits, or were his thoughts fixed on the Whitsun Conference of the Labour Party?

* * * *

Southern Region Punctuality

Mr. S. W. Smart, Superintendent of Operation, Southern Region, loses no opportunity to impress on his staff the need for good timekeeping. We have frequently commented on the success which has attended his unremitting and praiseworthy endeavours to improve the already good punctuality record of his system. The latest figures available are for the four weeks ended February 26, and, as will be seen from the table below, despite fog on three days during the period, a considerable improvement in punctuality of steam, electric and freight trains was obtained:—

		Average Minutes Late Arrival				
		Four weeks ended				
		1945	1946	1947	1948	1949
		Dec. 29	Feb. 23	Feb. 22	Feb. 21	Feb. 26
Steam	...	8.06	3.77	5.01	1.59	1.04
Electric	...	4.97	2.42	4.75	1.96	1.19
Freight	...	25.6	19.0	12.1	4.9	3.5

This result reflects credit on all members of the staff concerned with the running of trains, but Mr. Smart would like to see both the steam and electric passenger trains with an average lateness of less than one minute. In calling for a special effort to achieve this, he has pointed out that the longer hours of daylight during the summer months should be a great help.

* * * *

British Railway Investments in Venezuela

At the end of last year, according to the statistics compiled by *The South American Journal*, there was £18,353,300 of British capital invested in Venezuela. The amount of interest received was £1,825,791, or 9.9 per cent. No interest was received by £9,892,347, or 53.9 per cent. The railways of Venezuela generally have done poorly, especially since 1930, when even the La Guaira & Caracas, which up to then had been remunerative, found things going badly; it has not paid a dividend on the ordinary capital for some years. Thus, on £2,193,102 of capital interested in this group, only £23,706 was distributed in 1948, or an average return of about 1 per cent.; no less than £1,628,982 went without any return last year, equal to 74.3 per cent. of the total.

* * * *

Irish Transport Stock Compensation

The Irish Government has announced the terms of compensation for the security holders of Coras Iompair Eireann (the Irish Transport Company) and the Grand Canal Company. The compensation is to be effected by the issue of Transport stock guaranteed by the State as to principal and interest. The £14,439,083 of guaranteed debenture stock is to be converted into guaranteed Transport stock of the same nominal amount and in the same interest rates and redemption terms.

(Some £9,889,083 is 3 per cent. stock and the balance 2½ per cent. stock.) The £3,517,726 of common stock is to be converted into 3 per cent. guaranteed Transport stock 1875-85 on the basis of £80 of 3 per cent. guaranteed Transport stock for each £100 of common stock. The £36,300 of 3 per cent. irredeemable debentures, the £332,950 of 3 per cent. preference shares, and the £332,950 ordinary shares of the Grand Canal Company will be converted into the same nominal amount of 3 per cent. guaranteed Transport stock, 1975/85. So far as the C.I.E. common stock is concerned, the compensation terms compare favourably with those given to some British railway ordinary stockholders, although it has to be remembered that during the past ten or fifteen years the capital of the former Irish railway companies has been greatly reduced, so that the position is not strictly comparable. For 1947 no payment was made of the common stock, against 3 per cent. in 1946, and 4 per cent. for 1945, the first year of the operation of C.I.E., which was set up under the Transport Act, 1944.

Overseas Railway Traffic

Further increases in Paraguay Central traffic during the two weeks ended May 13 brought the aggregate gross receipts since July 1 up to G.4,671,939, or G.1,651,327 higher than for the equivalent 45 weeks last year. Receipts during the fortnight amounted to G.208,055 and represented advances by G.36,275 in the first week and G.41,318 in the second. Increasing traffic has continued on the Antofagasta (Chili) & Bolivia, with an improvement by £38,890 in the current fortnight, when receipts totalled £133,050. At May 15, aggregate receipts were £299,440 higher, at £1,327,490. A £2,000 setback in G.W. of Brazil receipts for the week ended May 14 was insufficient to offset an increase by £3,900 in the first week, and traffic for the nineteen weeks now stand at £736,600, as compared with £724,800 in 1948. Leopoldina traffic at £92,379 for the period under review were better by £2,371, though on the aggregate receipts are still down by £159,689, at £876,544.

Rolling Stock for British Railways in 1949

Because of the shortage of materials and workshop capacity, only 1,972 coaches and 27,225 wagons will be built for British Railways this year, against the 4,500 and 40,000 needed to help make good the losses that occurred during the war and assist in the urgently-needed modernisation of the stock to save the heavy expenditure involved in patching up old vehicles. These figures are given by the Railway Executive in the announcement of British Railways 1949 rolling stock building programme, which is given elsewhere in this issue. During the same period the construction of 465 locomotives is planned, of which 309 are to be built by the railways in their own workshops. The largest order for one class—70 "K1" 2-cylinder 2-6-0 mixed-traffic locomotives—is to be dealt with by contractors. The prototype of this class was a rebuild by Thompson in 1945 of a 3-cylinder "K4" class Mogul of the type designed by Gresley in 1937 for working on the L.N.E.R. West Highland line. Outside contractors are also to build 591 of the coaches and 10,406 of the wagons; 300 of these coaches will be in 3-car sets for the Liverpool Street-Shenfield and Manchester-Sheffield electrified services. As a result of the increasing popularity of the service, 2,900 wagon containers also are to be built in British Railways workshops during 1949.

First Class in Switzerland

The retention of first class on the Swiss Federal Railways has been criticised by those who regard it as a relic of the past, not in keeping with the democratic tendencies of today. The Federal Railways take a different view. Their coaching stock, they say, now offers seating accommodation for 2,298 first-class passengers, 29,674 second-class passengers, and 183,498 third-class passengers. In 1914, the accommodation was 8,403, 39,655, and 133,440 seats respectively. The reduction in the first-class accommodation, therefore, has been 75 per cent. and in the second-class accommodation 25 per cent., while third-

class accommodation has increased by more than 37 per cent.—surely proof of "democratisation." Of the daily mileage of passenger trains on the Federal Railways, totalling some 73,899 miles, those with first class account for only 19,667 miles. In 1947, the average occupation of passenger coaches by classes was 21 per cent. for the first class, 39 per cent. for the second class, and 36 per cent. for the third class. The much-decried first class showed up quite well, and first-class compartments did not mean empty, useless accommodation, as the public seems to believe, and therefore likes to blame. Receipts from first-class passengers totalled in 1947 fr. 4,300,000, or some 1.6 per cent. of all passenger receipts. Of this total, 79 per cent., or fr. 3,400,000, represented international travellers, and the remaining 21 per cent. (fr. 900,000) travellers within the country. It thus appears that the continuance of the first class on the Federal Railways is fully justified. It has been repeatedly stated that Switzerland will not be able to abolish it while it is maintained on the neighbouring French, Italian and Austrian systems.

Electric Battery Vehicles for Railways

Before nationalisation the British railway companies conducted a number of experiments with electric road vehicles. Broadly, it was found that, despite a higher initial cost, lower running costs make these vehicles an attractive proposition for some kinds of railway work. In particular, attention was given to the evolution of an electrically-driven "mechanical horse," and two prototypes have been produced. At the annual luncheon of the Electric Vehicle Association last week Sir Cyril Hurcomb, Chairman of the British Transport Commission, gave some further details of experiments which are going forward with electrically-driven vehicles for railway work. He pointed out that the railways have still over 7,000 horses, and that many of these would be retired as soon as the most economical mechanical substitute could be found. Co-operation was being maintained and fostered between manufacturers of these vehicles and the Railway Executive. The railways already use some 30 electric vehicles on cartage work and recently have agreed to purchase six new experimental battery-driven vehicles.

A Notable 1948 Safety Record

The railways of the United States are entitled to congratulation in that 1948 showed the best passenger safety record for the past twelve years, and the lowest number of fatalities among employees during the fifty years that records have been kept. As a result of accidents to trains during the year, 19 passengers lost their lives, and the total number of passenger fatalities from all train service causes was 42, spread over an estimated total of 41,150 million passenger-miles. This figure compares favourably with those of the depression period in the 1930s, when total passenger traffic was less than half that of 1948. For railway employees, of whom 566 were killed in 1948 while on duty, the incidence works out at 0.17 per cent. for every million man-hr. worked. These figures are the more remarkable in view of the high speeds that have been introduced with the many modern streamline services in the United States, on which speeds of 90 to 100 m.p.h. are now common over suitably-aligned routes. On the other hand, the casualty rate among what are described as non-trespassers, chiefly at highway level crossings, continues at a high figure; in 1948 the number so killed was 1,776. Even this must be viewed in relation to the fact that roughly one-third of the railway route-mileage of the world is found in the U.S.A.

Cast-Steel Frames for Locomotives for South Africa

Elsewhere in this issue reference is made to an order for 100 2-8-4 locomotives for the South African Railways, on completion of which the North British Locomotive Co. Ltd. will have delivered over 2,000 locomotives to this and other railways now incorporated in the Union of South Africa. These new locomotives, which have been designated the "24" class, were designed for the 45-lb. rail sections and incorporate

a number of departures from standard S.A.R. practice. Principal of these is the one-piece cast-steel bed. Because of the light rail section, it was necessary to ensure that the maximum specified axle-load was not exceeded, and the frame was designed to the minimum weight by the closest collaboration between the North British Locomotive Co. Ltd. and the General Steel Castings Corporation of America, which supplied the cast-steel beds. The locomotives are being built to the design and requirements of Dr. M. M. Loubser, Chief Mechanical Engineer, South African Railways, and inspection at the builder's works is under the supervision of the High Commissioner's Advisory Engineer in London.

Railway Labour Disputes

It has been increasingly obvious that railway labour relations have been deteriorating. The insistence of the National Union of Railwaymen on pressing its claim for higher wages notwithstanding a very recent rejection by the Railway Staff National Tribunal, and the refusal to accept a moderate increase for its lower-paid members, has resulted in an awkward situation for the Minister of Labour and the Government, and has raised issues far wider than the adjustment of railwaymen's wages.

The most recent claim put forward by the N.U.R. was for an increase of 10s. a week for all employed by the Railway Executive, and for payment of time-and-a-quarter for all work performed between noon and midnight on Saturday, in addition to any overtime rate or night-duty rate which may be payable during those hours. This claim was lodged by the National Union of Railwaymen seven weeks after the Railway Staff National Tribunal had rejected a claim for an increase of 12s. 6d. a week, but which did not include the request for additional payment for Saturday work.

In view of the financial position of British Railways, and because the other railway trade unions are signatories to the national agreements covering rates of pay and conditions of service, the Railway Executive indicated last week that it could not accede to the union proposals, but that, provided the present claim was abandoned, it was prepared favourably to consider, with all the trade unions concerned, moderate improvements to all the minimum rates of pay. At the same time it was prepared further to discuss other claims in which all parties were mutually interested.

In rejecting these proposals, union leaders decided to approach Mr. G. A. Isaacs, the Minister of Labour. Apparently, their request to him was not that he should intervene in the dispute; the result of that would be merely for Mr. Isaacs to direct the hearing of the case by the established machinery, and the arbitration tribunal has already rejected the railwaymen's claim. The hope that is entertained by the union is that Mr. Isaacs might be willing to suggest to the Railway Executive that a more generous offer should be made. The dangers of such a course are very real. The present dispute constitutes an important test of the Government's relations with a nationalised industry in a wage dispute. Theoretically, the Railway Executive is wholly free from any detailed control by the Government, and subject only to general direction by the British Transport Commission. If the Minister of Labour were to suggest to the Executive, or through the Commission, that a better offer should be made to the railwaymen, it would constitute a precedent for Government intervention in the affairs of nationalised management which might have the most far-reaching repercussions. The Minister of Labour is stated to have conferred with the Prime Minister and the Minister of Transport, and later to have agreed to meet the union leaders yesterday (Thursday). According to reports, that meeting was to be confined to a discussion of the position reached in the negotiations.

Another outcome of labour unrest on British Railways reached crisis point last week-end. For some time a number of engine crews have been dissatisfied with the "lodging out" system of duty under which long-distance train drivers and firemen have to spend nights away from their home base. The summer timetable, which came into effect on Monday, has had to be temporarily modified as a result of the refusal of some enginemen to work the required rosters. On Sunday last, there was a token strike in the North Eastern Region.

The men stated that they objected altogether to terms of duty which keep them away from home at night, and asked that the longer journeys should be worked by changing crews.

When we went to press, the outcome of discussions between members of the Railway Executive, and officials of the National Union of Railwaymen and of the Associated Society of Locomotive Engineers & Fireman, with a view to avoiding a repetition of the strike this week-end, was still awaited.

French Railways Summer Train Services

THE summer passenger timetables of the French National Railways, in force from May 15, include new developments, and notably the replacement of certain express railcar services by steam trains, and also accelerations where these have become possible, usually through the repair of war-damaged engineering works.

The principal through trains on the Northern Region between Calais and Basle and beyond in connection with the Dover-Calais services are routed *via* Lille, Metz, and Strasbourg, so as to serve these places, which are of greater commercial importance than points on the route *via* Laon, for many years the normal route for Anglo-Swiss traffic; no deceleration is involved. The down "Golden Arrow," leaving Paris (Nord) at 12.20 p.m., is allowed 192 min. for the 185 miles to Calais (Maritime). The ordinary *rapide*, connecting with the same sailing from Calais to Dover, is given 210 min.; it is a very heavy train, including through portions from the Riviera (the "Blue Train") and from Rome. Fast Paris-Lille services include non-stop runs of restaurant diesel sets between Paris and Arras, 124 miles, in 110 min. down and 107 min. up. The "Nord Express," between Paris, North Germany, and Scandinavia, is accelerated, and includes tri-composite (first, second, and third class) sleeping cars of the Wagons-Lits Company between Paris and Stockholm.

On the Eastern Region the "Orient Express" (Paris, Strasbourg, South Germany and beyond) and "Arlberg-Orient Express" (Paris, Basle, Austria and beyond) are accelerated, with later departures from and arrivals in Paris, and considerable reductions in journey times between London and Paris and Central and Eastern European cities. High-speed services between Paris and Strasbourg, 315 miles in 315 min., with two stops, now number two in each direction; they are worked by pneumatic-tyre sets. There are two diesel-worked services in each direction between Paris and Basle, 329 miles in 325 min., with two stops. New services include day expresses with restaurant and Pullman cars, between Holland and Belgium, and Switzerland *via* Luxembourg, Metz, Strasbourg, and Basle; also the "Train des Eaux," a day express thrice weekly between Paris and the Vosges spas.

The main South-Eastern Region development is the separation of the "Simplon-Orient" (Paris, Lausanne, Milan and beyond) from the chief Paris-Rome service. The latter now runs *via* Modane, Turin, and Genoa, and conveys a through Calais portion. The "Calais-Mediterranean Express," now shown in the timetable as "Train Bleu," between Paris and the Riviera, and the "Golden Arrow" are now the only *trains-de-luxe* (composed, that is, exclusively of sleeping, restaurant, or Pullman cars) in the proper sense, in Europe. New or restored pre-war services include day *rapides* between Paris and the Riviera (Paris to Nice, 678 miles in 15 hr. 35 min., with eleven stops) and the "Thermal Express," a day service between Paris, Vichy, and other spas in Central France.

On the South-Western Region the fastest service on the electrified line from Paris to Bordeaux, the Pyrenees, and Spain, the evening *rapide* to Bordeaux, covers the 363 miles in 355 min., with two stops; the "Sud Express," a heavy train conveying all classes, takes 405 min., and the "Maroc Express," a weekly service for passengers to Morocco in transit through Spain, 384 min. non-stop. The "Barcelona Express," also electrically hauled (between Paris and Narbonne, 540 miles), is allowed slightly over 14 hr. for the 605 miles to the Spanish frontier. There are a number of accelerations in services between Paris and Central and South-Western France.

The most interesting service on the Western Region is run between Paris (St. Lazare) and Havre, 143 miles, performed by railcars in 130 min. in each direction, with one

stop at Rouen (Rive Droite). There are additional boat trains between Paris (St. Lazare) and Dieppe in connection with the thrice weekly Newhaven-Dieppe night service commencing in June, and many seasonal services between Paris and seaside resorts in Normandy and Brittany and on the Bay of Biscay.

In addition to the above services there are many new cross-country connections. Although *trains-de-luxe*, as has been said, tend to disappear, more main-line trains than in 1938 convey first and second class passengers only. Services between Paris and large provincial cities such as Lyons, Strasbourg, and Rouen, still appear sparse. The reduction, in comparison with 1938, in the number of trains is partly offset by the fusion of previously light trains into heavier trains. Against this, much interurban traffic is conveyed by diesel services; these, however, are being largely replaced by light steam trains, in which the Paris-Strasbourg pneumatic-tired sets may indicate new tendencies. In spite of an energetic carriage-building programme, more passengers are being carried than in 1938 with much reduced availability of rolling-stock; considerable ingenuity has been needed in the deployment of resources to meet heavy seasonal commitments.

Sierra Leone Railway

THE report for 1946 sent to us by Mr. W. H. Salkield, former General Manager & Traffic Manager, Sierra Leone Railway, covers the first complete post-war year. (In 1947 Mr. Salkield was appointed General Manager, Gold Coast Railway. He was succeeded as General Manager, Sierra Leone Railway, by Mr. W. Venner). Like many other railway systems, that of Sierra Leone was faced with difficulties of motive power and shortage of staff, and yet the 102,439 tons of paying traffic handled in 1946 were exceeded only in 1942, 1943, and 1944, when there was heavy services traffic. Gross receipts in 1946 were £363,375, a record, and expenditure reached £495,669, against £559,644 in 1945. The principal results, as compared with those of 1945, appear below:—

	1945	1946
Route-mileage	311	311
Passenger journeys	729,378	754,262
Goods tonnage	96,516	102,439
Gross revenue	£ 359,139	£ 372,496
Gross expenditure	£ 559,644	£ 495,669

Because of deterioration in the availability of motive power, a special committee of inquiry was convened to investigate fully the problem of running-shed repairs, and its findings included a recommendation that all staff concerned with train operating duties should be under the control of the Traffic Manager. This recommendation, with modifications, was accepted, and the change made effective from January 1, 1947.

As from July 1, 1946, passenger fares were reduced from 2d. to 2d. per mile for second class, and 1½d. to 1d. for third class. Passenger journeys increased from 729,378 in 1945 to 754,262 in 1946, and receipts fell from £133,756 in 1945 to £128,190 in 1946. With the considerable reduction in fares for the second half of the year, the results are considered highly satisfactory, and it is felt that the reduced fares stimulated passenger traffic. Cheap return fares were introduced for all classes at single fare *plus* a half and have proved popular. The fast train between Freetown and Bó was accelerated and a restaurant car operated by a private company was introduced.

Goods revenue reached a record figure of £214,497, against £204,487 in 1945. A comparison of the 1945 and 1946 tonnages of specified commodities shows that all local produce, largely export traffic, shows decreases, and all imports of manufactured goods show increases, which demonstrates a regrettable falling off in the home production of Sierra Leone.

During the first few months of the year, there was difficulty in keeping the running sheds supplied with sufficient power for traffic requirements, and it was necessary to divert considerable workshops energy to running repairs, though the position improved later. A complete overhaul of the system of costing of work done in the workshops was being considered. Shortage of qualified staff in the Civil Engineer's branch was a great handicap, as during the year there were never more than two engineering officers in the colony, although the authorised establishment is one Chief Engineer and three assistants.

The track was maintained to a satisfactory standard. It has

been realised for a long time that substantial operating economies would result if the heavy curvature and grading of the railway could be reduced. Mr. H. Gatford, a former Deputy General Manager of the East Indian Railway, an Assistant Engineer seconded from the Southern Railway (England), and a European surveyor arrived during the year to form an engineering survey party. Attention was given first to realigning an area around Allen Town, where a serious landslide occurred in August, 1945, and a diversion line was put in hand.

Locomotive Workshop Developments

THE paper on developments in locomotive workshop practice, which Mr. I. C. Forsyth presented to the Institution of Locomotive Engineers on March 16* provided an effective answer to criticism that the railways of this country do not take advantage of up-to-date methods and equipment for their operation and maintenance. Although Mr. Forsyth's paper was confined to progress at Crewe, he pointed out that similar developments had taken place at other works of the British Railways; the chief items which he covered, therefore, can be taken as thoroughly representative. Fourteen principal divisions of workshop activities were dealt with by Mr. Forsyth, but, of these, the following five received special prominence: Foundry work; smithing and forging; oxy-acetylene and electric-arc welding; erecting shop; machine shops. These were practical sections; the other headings were largely administrative, or specialist, activities.

The vital position of the foundry in a locomotive works is now more clearly appreciated than ever before, and great efforts are being made to bring about more attractive working conditions to help in overcoming the difficulty encountered in engaging adequate staff. Two large shot-blasting machines installed at Crewe in 1943 are contributing towards this; each comprises a room 12 ft. x 9 ft. x 8 ft. high, and operation is automatic, with everything controlled from outside. A great deal of manpower is saved by this elimination of hand cleaning. In the iron foundry, the installation of a hydro-blast plant in 1947, for de-coring and cleaning the castings, has enabled the cleaning time for a cylinder casting to be reduced from 20 hr. to less than 7 hr. The operator, clad in a rubber suit and a helmet, which has a window that is washed automatically every 10 sec., directs a sand gun on the casting, and so applies a jet of sand and water, at about 1,250 lb. per sq. in. and a velocity of about 18,000 ft. per min. Besides being a great time-saver, this enables a good atmosphere, free from danger of silicosis, to be maintained.

Crewe steel foundry has been equipped with two Sesci rotary pulverised-fuel fired furnaces since 1935, and they are believed to be the only furnaces of this type used for steel-making in this country. There have been valuable efforts at Crewe to make a success of these furnaces, which at one time presented difficulties concerning furnace linings. In their original state, the linings would not withstand more than about 30 heats. The adoption of a technique of fritting (using ordinary quarried silica sand as the fritting agent, instead of costly imported refractories) allowed the number of heats to be raised, first to more than 200; now, with additional experience, the number of heats obtained per lining is between 350 and 400—and this without the anxiety that formerly overshadowed operations with this plant.

By collaboration with Hopkins Limited, of Huddersfield, a method of casting steel, which involved the use of the Whirlgate head, was adopted in 1943. Instead of relying on ordinary gravity feeds when pouring, a runner is placed at an angle to the bottom of a relatively large riser, to swirl the metal round and then flow into the mould. The metal thus is fed into the mould at a more even temperature, and by means of whistlers at the highest point, all gases are eliminated; the pressure of the large riser provides the surplus metal to counteract shrinkage, and so ensure solid castings.

In 1946, the casting of certain locomotive cylinders in steel was undertaken, and about 500 such castings since have been made. Breakage in service has been eliminated, for all practical purposes, and, even if damage ever is sustained, the castings can be repaired easily by welding.

* "Some Developments in Locomotive Workshop Practice, 1939-48," read before the Institution of Locomotive Engineers, by Mr. I. C. Forsyth, Works Manager (Locomotives), Crewe, London Midland Region, on March 16

In smithing and forging, progress has been made with the use of hot sunk dies in conjunction with the pneumatic hammer, where the cost of normal die sinking could not be justified. The cold model is placed between two heated die blanks and then hammered until the correct impression is made in the blanks, which after cooling become the die-blocks for the article concerned. Production costs in the smithy have been reduced further by installing a 75-ton open-fronted vertical mechanical press, with a 7-in. stroke (maximum 34 strokes per min.), for making pipe clips and other small items. New dies are being introduced continually, and an increase in production per man-hr. of 50-150 per cent. is being achieved.

In conjunction with the Ministry of Supply, a new drop stamping plant was installed to aid in the production of war material. The plant comprised two new 3-ton friction-lift drop hammers, with two 200-ton finning presses, and an existing 4-ton drop hammer transferred from the old stamping shop. The anvil blocks for the 3-ton hammers each weigh 45 tons and were produced in the iron foundry at Crewe. To complete this plant, eight new pulverised-fuel fired furnaces were installed, with a new Atritor coal-pulverising unit.

The forge has benefited from the introduction, in 1946, of three modern pulverised-fuel fired reheating furnaces, to replace older plant, which was heavy in coal consumption. Each of the new furnaces is of the two-compartment reversing type, one compartment being used for heating and working whilst the other is being used for preheating. Better results in the heat treatment plant, especially in connection with fine-grain steels, have followed the use, in 1943, of a modern oil cooler to maintain a stable temperature in the quenching bath.

During the war, there was much fabrication by welding in connection with Government sub-contract work; manipulators were introduced, and their use has extended until they are now regularly in service for a variety of welded details, and now many welds, formerly difficult by reason of their awkward positions, can be made with ease. For cast-iron welding, the oxy-acetylene fusion welding process, using a cast-iron filler rod in conjunction with a gas-fired preheating furnace, has found favour.

Stud welding has been the subject of recent experiments, using an automatic stud welding gun, comprising a rectifier and a transformer (50 volts d.c. output) for welding studs from $\frac{1}{4}$ in. to $\frac{1}{2}$ in. dia.; the gun holds the stud in position, and the welding current is applied to the stud when the trigger is pressed. Good results have been obtained with all sizes up to and including $\frac{1}{2}$ in. studs in the horizontal position, but with $\frac{1}{4}$ in. studs there is a flow of metal at the juncture, producing a slight undercut at the top side of the weld, which, so far, has prevented the use of this method on boilers. In 1947, equipment was introduced for cutting steel stays out of copper fireboxes by the oxy-arc process, which involves very rapid local heating of the stay by an electric arc, using a hollow electrode, and then applying oxygen through this hollow electrode to obtain the cutting action.

The oxygen consumption at Crewe Works has now reached 250,000 cu. ft. per week; this large demand has made the use of portable cylinders obsolete long ago, and pipe lines now serve the works. Extensions to the pipe lines have been made on several occasions, and special 12-ton wagons carrying 10,000 cu. ft. of oxygen are used to convey the gas to the works. Even these are inadequate, and, in 1948, a twin cold low-pressure liquid oxygen evaporating plant was installed.

Mr. Forsyth's survey of the erecting shop shows the important new developments in the use of electric arc welding and in high-frequency electric hand tools. The new welding plant was made available anywhere in the shop, the transformers being located mid-way along the side of each bay, to supply a busbar system at 100 volts, which can be tapped every 28 ft. The return welding current is carried via the roof columns and crane girders, thus avoiding the use of additional busbars. Over 60 portable pneumatic grinders and drilling machines were replaced in 1947 by high-frequency electric machines used in conjunction with four 20 kVA. frequency-changer sets feeding 172 sockets, and production has been increased by virtue of their higher drilling speeds and feeds.

In the machine shops, about 350 new fixed machine tools were installed in the ten years covered by Mr. Forsyth's paper. The principal lines of development are the increasing use of cemented carbide tips and the introduction of negative rake machining. Cutting speeds have reached 1,000 ft. per

min. on many of the machines, and some heavy milling machines have feeds up to 60 in. per min. Negative rake machining has given very good results in milling cast iron, although the cutting speeds must be lower than when applying the method to steel. Additional wear on the machines, however, is part of the price to be paid for the short machining time; the amount of cutter grinding needed also is greater. It is inadvisable to make use of old machines for negative-rake work. The progress made in producing a finish on the internal surfaces of connecting and coupling-rod bushes by broaching is very striking. A mirror-like finish is obtained, with an allowance of 0.004-0.006 in. on the inside diameter for the broaching operation, which is carried out after the bushes have been pressed into the rods.

Mr. Forsyth's paper shows that careful attention to detail in workshop process, though not itself spectacular, has enabled quality of output to be steadily improved over the years, with reduction in costs, and, at the same time, more comfortable working conditions.

Mr. C. H. Sutherland

BEFORE nationalisation, the L.M.S.R. headquarters organisation was regarded by informed people concerned with British transport as being efficient and creative. The reason for this reputation was that the team which composed it included a number of men of outstanding ability in the conduct of large-scale railway organisation and management. Some of them were well-known public figures, such as Sir Guy Granet, Lord Stamp, and Sir William Wood, but there were others in the team in the background who in their modest way contributed as much as the leaders, which is the secret of the making of a good team. One of these was Charles Sutherland, who is about to retire from the position of Accountant for the London Midland Region.

Charles Sutherland began his railway life with the Highland Railway Company. With the handicap of its geographical position, requiring a continuous struggle for existence, the old Highland was an example of the enterprise and tenacity of the Scot in providing an efficient transport system and stemming, at least, the drift to the south. Those in its service had to play many parts and had the great advantage over the present generation of railwaymen in knowing something of each part of its activities. Up to the summer of 1914 he had been in the Traffic Manager's, the Civil Engineer's, and the Locomotive Engineer's Departments, mainly on the accounting side. He then joined the army and was on service overseas until the end of 1919. He was taken prisoner in France and was badly wounded.

For a short time after his return he was again in both the Locomotive and Civil Engineers' Departments at Inverness, and, with the formation of the Scottish division of the L.M.S.R., he was transferred to divisional headquarters in 1924. His record there was outstanding, and in 1925 he came to Euston as one of the first two investigators of expenditure and costs in the special section which Sir Guy Granet had created. On that work he was engaged for the next ten years, during which the economy of the widespread L.M.S.R. system was examined in each department and in each district, and the new standards for the control and costing to secure the utmost efficiency and economy from the consolidated undertaking were settled and made effective. In 1934 this work was merged with that of the Chief Accountant, to whom he was made Assistant, and then Assistant Accountant. In 1933 he accompanied Sir Guy Granet to South Africa to investigate the financial position of the railways there.

His main qualities throughout his career have been his courage and thoroughness which have enabled him to deal successfully with the many difficult problems he had to solve with those wedded to past traditions, and he solved them without making an enemy. Other characteristics are his modesty and thought for others. He has always been sound on finance and shrewd on policy. The effects of his war service in some measure weakened his health for a time and in his retirement now, after a career of 44 years' service, he has the best wishes of a host of friends—and all who know him are his friends. If nationalised British Railways can produce men of the calibre of Charles Sutherland they will do well.

A. J. P.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

London Bus Route Numbers

34, Gordon Square,
London, W.C.1. May 2

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Your correspondent, Mr. Douglas D. Costell, suggests in your April 29 issue that by omission of route numbers from the offside of buses the intending passenger would be discouraged from running across the road after them. I disagree.

As long as he cannot see a route number he tends to run after every bus in case it is his own. If every bus were clearly marked on every side (like the old B-type bus) one could at least be sure that he would not endanger himself and others by running after buses which did not concern him.

Yours faithfully,

R. B. HOUNSFIELD

London Outer Area Services

The Deanery, Stanley,
Falkland Islands. March 30

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The writer of your article on "London Outer Area Services" in your May 21, 1948, issue, goes back to pre-1914 times for Windsor slips at Slough. I do not think there were any in the inter-war period, but there was a down train reaching Windsor in 30 min. (4.33 p.m.). The only suburban slips which I remember were one at Taplow (worked to Henley), and one on the L.N.E.R. at Waltham Cross.

As Reading and Basingstoke have such good services, why not transfer the through trains from Oxford to the South Coast to the Didcot-Newbury route, which was adapted during the war to carry more traffic? Alternatively, what about a railcar service between Oxford and Winchester, using the Southern station by means of the wartime connection?

You say to another correspondent that many local stations are far from the communities they serve. Often that cannot be helped; but when this was caused only by the contrariness of local landowners, something now might be done to remedy things. There is nothing at Fairford (Glos.) between the village and the station except a few flat fields, and the cost of extension would be little more than providing a factory siding, and also the gasworks could get its coal without transhipment. That is one instance—doubtless there are many more, as at Watlington.

Yours faithfully,

R. G. R. CALVERT

Passenger Fares

Dalston Road,
Carlisle. March 6

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I do not wish to take up too much of your valuable space, but surely your correspondent in his article in your January 28 issue would agree that now transport is nationalised, the problem is to get more passengers and freight back on the railways, from a national point of view, to relieve the congestion and fatalities on the roads. I hold no brief for road or rail, but it must be evident that the present chaotic conditions should not be allowed to continue.

In the first place, the overhead costs in connection with the running of a passenger train are the same whether it carries 50 or 300 passengers. The coal used does not have to be imported, and if the trains were used to capacity, fewer buses and road vehicles would be required. There would be a considerable saving in petrol from empty and loaded running, which would result in less petrol being imported from the dollar countries. This would enable the Government to buy more essential commodities, such as cattle-feeding stuffs, which in turn would enable farmers to produce more poultry, pigs, and cattle. Railway revenue would be increased, not only from passenger fares, but also from dining cars and refreshment rooms.

While a case for privilege tickets could reasonably be made out when railway wages were round about 17s. 6d. per week, one wonders if a similar case can be justified now wages have gone up to round about £5 per week. It is also a fact that some return bus fares are actually lower than privilege fares, and many railwaymen and their families use the bus as a result. The railway management could, if desired, recompense staff by the issue of two additional free tickets each year.

Similar arguments, as far as wages and salaries are concerned, can be advanced against workmen's, season, and all other reduced-fare tickets. All classes of the community can

afford today to pay 1d. per mile for all the travel they need, whether for work or pleasure, and, in my opinion, no distinction should be made. The only reduction I would consider would be for a guaranteed excursion train for 300 or 400 passengers, and the fare charged in this case could well be left to the District Officer in whose district the traffic originates.

In my opinion, the railways for the past twenty-five years have been in the position of a man tied hand and foot, while his captors torment him, then cut his throat. It is up to the Government not to take sides, but to see that all transport is organised and co-ordinated for the benefit of the community and for the welfare of the country, and whether this involves fewer road vehicles or trains should not be the primary consideration.

To the ordinary layman, the restrictions and conditions imposed on the issue of cheap railway tickets at the present time border on stupidity, and one wonders who is responsible. An entirely new outlook, admittedly bold and visionary, on the lines indicated in my proposals, would put an end to all the anomalies and irksome restrictions which cause so much annoyance to the travelling public, and would bring them back on the railways.

Yours faithfully,

J. M. PIKE

A Remarkable Journey

The Railway Club,
57, Fetter Lane,
E.C.4. April 27

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It is reported in Mr. E. Majoribank's "Life of Sir Edward Marshall-Hall, K.C.," that the latter had decided to refuse an invitation to stand at the then pending General Election of 1900 as Conservative candidate for the Southport Division, and to telegraph that decision from Liverpool Street Station whence he was going to Leicester!

He only just caught the Leicester train at Liverpool Street, and "then"—to quote the traveller's own words—"a strange thing happened, I fell asleep in my corner, and woke up to find what seemed an endless line of trucks moving on a parallel line in the same direction as we were going. . . . Eventually we ran abreast of the engine, and there in big gold letters was the name 'Southport.' It struck me as very curious that this name should be on a G.E.R. engine. It seemed to me a direct omen, and when I got to Leicester I stopped at the telegraph office and sent a wire to say I would stand for the constituency."

A man who would travel to Leicester via Liverpool Street not unnaturally succeeded after a short whirlwind campaign in winning the seat from a strong local candidate.

Yours faithfully,

KENNETH BROWN

German Locomotive Classification

c/o 85, Thorne Road,
Doncaster. March 28

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I notice that a correspondent in the March 18 issue of *The Railway Gazette* states that the overhead system at Hamburg is not now used. I recently returned from serving with R.E. Tn. in B.A.O.R. and visited Hamburg several times, and can assure your correspondent that the overhead is working as hard as third rail (in number of trains). Whenever I used the Blankenese line I always had an "overhead" train, though third-rail trains were also running out there.

Several correspondents have written recently advocating various systems of classification of locomotives and also numbering. I have had a little experience with German locomotive numbers and it seems to me that there is much to recommend it, especially now that five-figure numbers are a necessity here. In the German system the first two figures indicate the locomotive class (01, i.e., "cypher one," and 03 are Pacifics, 50 the standard 2-10-0 freight, etc.) and the engine number follows. Each class is numbered independently, and as (unless I am mistaken) we have no class of more than 999 locos, three figures would suffice for the number portion. Cyphers are used to bring the number to three figures, but four figures are frequently used. Unfortunately, we have more than 100 classes, but under the German system the number of letters and figures to convey the same information could be considerably reduced, e.g., D 16/3, No. 62527, would become 103.028—a saving of three figures. As, for people who have to remember engine numbers—running foremen, etc.—it is not very often that two engines with the same number portion come together, remembering the engine number would

be considerably simplified, and remembering the class is comparatively simple.

Where it is desired to show minor differences the Germans reserve a block of numbers for that variation, e.g., D 16/2 could be 103.001 to 103.099 and D 16/3 could be 103.100 to 103.199. On drawings this would appear as class 103 and 103.100 respectively.

Yours faithfully,

C. G. W. GARRAWAY

[We are informed that the continued use of overhead current collection on the Hamburg suburban lines is a stop-gap measure, dictated by the need to economise in fuel and rolling stock. When conditions permit, the dual operation will cease and the overhead system be replaced altogether by third-rail.—ED., R.G.]

First Transatlantic Call from Train in Motion

Canadian National Railways,
17-19, Cockspur Street,
London, S.W.1. May 9

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I noticed with some interest the item appearing on page 486 of *The Railway Gazette* dated May 6, under the caption "Attracting Overseas Visitors." The article refers to Mr. Maxwell placing a telephone call to London during a journey between New York and Washington, and it is stated this was the first Transatlantic telephone call ever to be made from an American train in motion.

In referring to an American train, it is presumed reference is intended to the United States, rather than to North America, for actually the late Sir Henry Thornton, K.B.E., inaugurated on April 27, 1930, the world's first public two-way telephone service to and from a moving train. Sir Henry Thornton was then Chairman & President of the Canadian National Railways.

On the date mentioned Sir Henry Thornton telephoned from the Canadian National Railways train, the "International Limited," operating between Montreal and Chicago, to our then European Vice-President, Mr. C. J. Smith, who answered from my present office in Cockspur Street, London, and it is on record that Sir Henry Thornton's voice was received here with perfect clarity. From the telephone booth in the observation car *Minaki*, conversations were also held with Ottawa, Washington, and cities as widely separated as North Bay, Ont., and Fort Worth, Texas.

I have before me the *Canadian National Railways Magazine* of June, 1930, reporting rather fully on this historical event. In fact, the actual conversation between Sir Henry Thornton and Mr. J. C. Smith is recorded in the article. It occurs to me that you will be interested to receive this information.

Yours faithfully,

JAS. B. THOM,
European Manager

The Chief P.R.O.—Now We Know

May 13

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Your editorial note in your May 13 issue conveys a sense of foreboding. In future are we to expect that the public's sole means of contact with those responsible for serving them must be through the intermediary of a Public Relations Officer? Even if he alone is to be considered capable of interpreting public opinion and wishes, has he the power or capacity to satisfy them?

An efficient transport officer, if he is successfully to discharge his job, should in his own right possess a sound but discreet public relations instinct; on the other hand, if he requires inspiration in this respect, he might be well advised not to display the source of it.

The maintenance of good public relations can be vitiated to a large extent by an elaborate central organisation designed to foster it, with the undesirable but inevitable suggestion of window-dressing associated with the existence of such an organisation. However well done a reply to a public com-

plaint may be, its effect on its recipient will mean less when it comes from a Public Relations Officer than would have been achieved by the same letter under the signature of a responsible departmental officer or of his superior.

The Public Relations Officer may appreciate public taste, if it is accepted that this can be measured by press paragraphs and those complaints and commendations which are formally lodged and which come from only a fraction of transport users; it is debatable whether he is necessarily better at this job than the man who actually has to provide the public with its needs. It is more debatable still whether public taste appreciates the Public Relations Officer. The common man, after years of propaganda and its consequences, tends to distrust anything savouring of publicity, but the growing army of Public Relations Officers, despite their qualifications, seems to be blissfully unaware of this fact.

Yours faithfully,

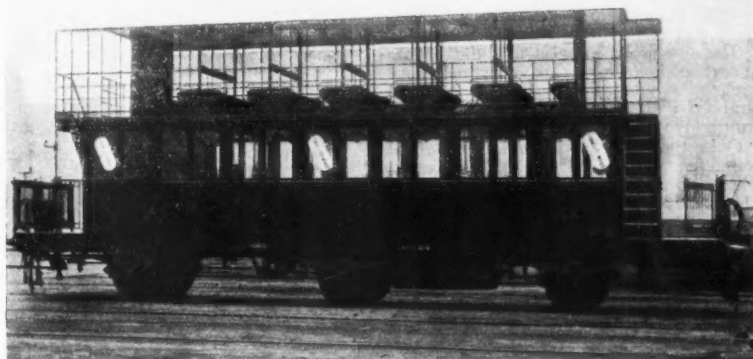
ROLYAT

Double-Deck Coaches in Valencia

Red Nacional de los
Ferrocarriles Españoles,
Madrid, April 7

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In *The Railway Gazette* of April 1, page 346, I have seen with interest a picture of a Danish double-deck coach. As we possess on our lines in the neighbourhood of Valencia many similar cars, I have much pleasure in sending you a picture of one built in 1914, by Carde & Escoriaza, Saragossa.



Double-deck six-wheel coach used in Valencia district, Spanish National Railways

The top deck of this coach is open, due to the good climate of this region throughout the year. The vehicles work in a radius of 100 km. from Valencia. The principal details are: weight 20.6 tons; number of seats 110; length 14.3 metre = 46 ft. 11 in.; width 3.01 metre = 9 ft. 11 in.

Yours faithfully,

J. DE LA FUENTE

Nationalisation and Standardisation

Sand Lodge,

Shetland, May 12

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—How quickly nationalisation answers questions that made long and lively controversy in less enlightened days!

For years before the second war, for years before the first war, engineers who were the leaders of their profession experimented and quarrelled about types and shapes of rail, about flat-bottom and bullhead, and about particular shapes and settings for each. But for nationalisation, they would probably have been quarrelling and experimenting still.

Now, in one short year, nationalisation has solved the problem! One particular shape of flat-bottom rail is to be standard throughout the whole of Britain, and here is an end of all quarrelling—and of all experimenting.

Yours faithfully,

R. H. W. BRUCE

The Scrap Heap

TRANSPORT UNION'S £2,300,000

The income of the Transport & General Workers' Union amounted to £2,305,351 in 1948, according to the recent annual report of its Executive Council. Membership of the union on December 31, 1948, totalled 1,323,679, the highest ever recorded. Political fund income for 1948 was £43,610, and Labour Party affiliation fees accounted for a total of £20,000 spent from that fund.

* * *

RAILWAY MEALS

Here is a sample menu collected lately on a French train: Lunch began with a triangle of sausage meat with potato salad, followed by an outside in sprats, soured in tomato sauce. More tomato sauce was served with the spaghetti. For the main dish there was a choice of cold ham or stringy beef (can it have been horse?) with fried potatoes. Next came a choice of cream cheese or Camembert. Then they brought an apple and after that an orange. A delicious cup of coffee (substitute) ended the meal. Of course, there were wines and liqueurs in abundance for those who wanted them.

Dinner began with a bowl of soup, followed by cold sausage meat and a plate of roast mutton (tender) with potatoes. The ends may have been meant to go with them but arrived so late as to make a course by themselves. Then came cheese, fruit, and coffee as before.

The significant thing is that the people in my compartment, all of whom were French, avoided the dining-car, but unwrapped and ate a baton of bread with fruit and/or a bottle of wine.

Quite the best railway meal I have encountered was served the other day on what used to be the old Southern Railway. There was a good soup, a choice of delicious fish or jugged hare with—wonder to relate—properly cooked cabbage and potato, and ice-cream or Camembert cheese (shades of Dr. Summerskill!), followed by real coffee.—E.N.A. in "The Scotsman."

WILD WEST

The "Zephyr" express has begun stopping again at the tiny Texas cattle town of Electra. The 7,500 townspeople, led by cowboy mayor Leo Moore, made so much fuss in the fortnight the train has been going non-stop through Electra, that the railway bosses changed their minds.

First, every citizen stood at the station and tooted whistles as the "Zephyr" flashed by. Next day it did not flash by, because Mayor Moore posted an ordinance that all trains must slow down to 15 m.p.h. through the town.

Next day, there was another ordinance—trains were subject to sanitary inspection inside Electra's town limits. Finally, there was an ordinance giving cars and pedestrians the right of way over railway tracks, which hauled up the "Zephyr" for a perambulator.—C. V. R. Thompson in the "Daily Express."

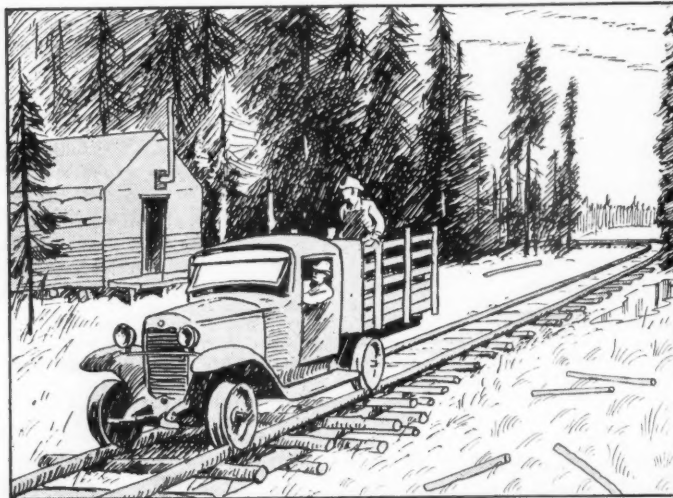
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WHERE THE MONEY GOES

In Parliament on May 10 the table below was given showing the provision for expenditure in the 1948 and 1949 budgets in terms of each £1 of estimated revenue:—

Budget estimate	1948-49	1949-50
	s. d.	s. d.
National Debt Services ...	2 8	2 7
Other Consolidated Fund Services ...	— 2	— 3
Supply Services:		
Defence ...	3 8	4 0
Central Government and Finance ...	— 1	— 1
Foreign and Imperial ...	— 2	— 3
Home Department, Law and Justice ...	— 3	— 4
Education and Broadcasting	1 2	1 3
Health, Housing, Town Planning ...	3 2	3 10
Labour and National Service, etc., Trade, Industry and Transport ...	— 11	— 11
Common Services (Works, Stationery, etc.) ...	— 5	— 5
Non-effective Charges (Pensions) ...	— 6	— 6
Supply, Food and Miscellaneous Services ...	2 6	2 11
Revenue Departments (excluding Post Office expenditure met from Revenue) ...	— 2	— 2
Surplus of Revenue over Expenditure ...	4 2	2 6
	20 0	20 0

Wooden Rails on a Railway in Quebec



Wooden rails on the Bourlemaque Railway, Quebec. The power unit is a motor lorry with grooved wheels

100 YEARS AGO

The Railway Times.

SATURDAY, MAY 26, 1849.

AMID the execrations of railway iniquity, the groans of exhausted contributors, the sneers of cautious moralists, the grumblings of the disappointed, and the insinuations of the Bears, it is not a little consoling to turn to such a sound, practical, and sensible production as Capt. HUISS has just offered to the railway public, in his observations "on the deterioration of railway plant and road, in a report to the Directors of the London and North-Western Railway Company." This pamphlet contains a reprint of the observations offered by Capt. HUISS last year, upon the deterioration of the locomotive stock, and an official report to the General Works Committee, on the present condition of the permanent way, to which are appended remarks on the nature and extent of a fund for deterioration, and on the principles of relaying and maintaining the road. In the prosecution of his inquiries, Capt. HUISS has had the active co-operation of Messrs. DOCKRAY, NORRIS, WOODHOUSE, MCCONNEL, TREVITHICK, RAMSBOTTOM, and WATKIN, and of Mr. E. W. MAKINSON, in checking the calculations. All these gentlemen (with the exception, we believe, of the last named), are in the service of the Company, and comprehend in themselves all the requirements for a correct and practical investigation of the important subject submitted to their consideration. Our readers will remember that now some while past, it was the fashion to predict a state of suspension to the traffic of the London and North-Western Railway Company. It was boldly asserted that such was the state of the permanent way that the whole line would have to be relaid—that ruin springing therefrom stared the shareholder in the face—that the passengers and goods would be consigned to donkeys and wheelbarrows during the relaying of the iron-way; while even before this labour was undertaken, no one could foresee what multitudinous accidents would happen; what compensations and damages might have to be paid, and, in brief, that the London and North-Western Railway Company must go to smash. We are charitable enough to suppose that these prophets of evil are gratified at finding their predictions falsified; and we lay no stress upon the absence of all admission of their misconception.

* * *

The lords of the manor who saw a red rag in the coming of the railways would have been astonished at the affection which this present generation feels for a now traditional form of transport. It is the old story of the new-fangled becoming the old-fashioned, of the tiger turned turtle, of the brutal innovation absorbed into the accepted. One would not suggest that an estimable railway system has reached a mere "survival" stage; one has only to call to mind in rebuttal the present exploits of the Southern Region's mighty modern engine Sir Archibald Sinclair, which is busy just now feeling its way bravely, with various appendages in the shape of the Eastern Region's better known trains, round the notorious hinterland of Liverpool Street. Still, there is no denying that the dear old centenary more often looks his age, and the prophets say that some day the archaeologists will be digging along the far from permanent way and getting up appeals for the preservation of St. Pancras.—From "The Times."

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

INDIA

Proposed Calcutta Underground Railway

The Calcutta municipality recently entrusted the Société Générale de Traction et d'Exploitation, actually the former Compagnie du Chemin de Fer Métropolitain de Paris, with the task of elaborating a project for the building and working of an underground railway system at Calcutta. It has been reported that the order was obtained through the intermediary of a delegation of the Société de Construction des Batignolles, the French firm specialising in railway building.

CANADA

Opening Session of Royal Commission

At the opening session of the Royal Commission on Transportation, held in Ottawa on May 2, Mr. G. A. Walker, Chairman of the C.P.R., uttered a warning that if reasonable freight rates in one territory were reduced to the level of those in another territory, where carriers had been forced to cut prices to meet competition, "immediate and overwhelming disaster to the railways would be invited."

The Chairman of the Commission, Mr. W. F. A. Turgeon, observed that the Commission has been asked by the Government to make recommendations for bringing relief to regions affected adversely by transportation difficulties and by certain anomalies said to be found in the existing rate structure. The Commission was not authorised to perform any of the functions of the Board of Transport Commissioners.

Taken with the Commission's terms of reference, the chairman's statement appeared to indicate that, although the Commission has powers to delve fully into the rate structure, its recommendations on rates may be delivered in general terms. Simultaneously, the Board of Transport Commissioners itself is engaged on an inquiry into the rate structure with the object of equalising rates between regions. No definition was given of the dividing line between the two hearings. The Royal Commission's jurisdiction apparently overlaps that of the Board on matters of rate equalisation.

Subjects for Investigation

As outlined in the terms of reference read at the session, the Royal Commission has much other ground to cover, and the equalisation might be left largely to the Transport Commissioners. These other questions included: a general review of railway legislation with a view to revision; adjustment of the top-heavy capital structure of the Canadian National Railways to bring it into line with normal railway financing; standardised accounting methods for the railways, and also whether non-rail income of the railway companies should be taken into account in setting freight rates; an investigation into whether the C.N.R. and the C.P.R. have complied with the 1933 statute ordering them to effect joint economies; and generally, a survey with the object of recommending measures for achieving a national transportation policy to serve best the economic well-being of the whole country.

Spokesmen appeared for the governments of eight provinces, including Newfoundland, but excluding Ontario and Quebec.

At the opening of the inquiry, the heads of both railways promised full co-operation of their companies. Mr. R. C. Vaughan, Chairman & President, C.N.R., said he was confident the Commission's findings would have a profound effect on the transport policy of Canada in the decades ahead. He added that the Canadian railways faced problems of great complexity, which could be solved only through a broad understanding of the work they did for agriculture, industry and the development of natural resources.

Mr. G. A. Walker, Chairman, C.P.R., said the freight-rate structure had been built up over 46 years by the independent Board of Transport Commissioners and he expected its decisions would not be disregarded lightly by the Royal Commission. It was important that railway rate regulations continued to be kept out of the field of political controversy. The railways had to have adequate revenues; that called for a rate structure which would obtain the maximum volume of traffic. If rates were lowered so that one class of traffic or one section of the country were served at less than its proper share of the cost, the result was to increase the burden on other commerce or on other districts.

After the brief session at which procedure was laid down, the Commission adjourned, to resume at Winnipeg on June 1 for a tour of the West lasting about a month.

UNITED STATES

Improvements on Pennsylvania Railroad

Equipment restrictions in five tunnels on the 45-mile main-line section of the Pennsylvania Railroad, between Steubenville and Dennison, in Ohio, are to be removed at a total cost of £2,200,000.

New Terminal Facilities at Fort Wayne

The Nickel Plate Railroad has prepared plans and estimates amounting to £500,000 for the extension and remodelling of its terminal yard facilities at Fort Wayne, Indiana. Work is beginning immediately, and includes a 110-ft. turntable and an engine shed 130 ft. long and 90 ft. wide.

Dam Necessitates Diversion of Branch

The construction of the Harlan County Dam in Nebraska necessitates the relocation and reconstruction of the Oxford branch of the Chicago, Burlington & Quincy Railroad in Harlan and Franklin Counties of the State. A tender for the work, amounting to just under £750,000, is reported to have been received by the authorities responsible for building the dam.

ARGENTINA

Station Named after President's Wife

Victoria Station on the General Mitre Railway is to be known henceforth as "Evita," after Señora Eva Duarte de Perón, wife of the President of the Republic. The car sheds and repair shops for the suburban electric service are situated at this point. The station was originally named in honour of Queen Victoria.

New Railway Magazine

The Ministry of Transport has recently issued the first number of a new railway magazine entitled *Via Libre*. This publication

will replace the *B.A.P.* and *Sud-Oeste* magazines which ceased to appear last December after having been produced for many years by the B.A. Pacific and B.A. Great Southern-Western railways. The new magazine contains the official viewpoint on railway problems, agricultural information, and articles of general interest.

Transfer of British-Owned Railways Completed

The final instruments of sale to the State of the British-owned railways were signed on May 5 by Lt.-Colonel Castro, Minister of Transport, on behalf of the Argentine Government, and by Mr. Robert Montgomery and Dr. Jerónimo Cortés Funes on behalf of the liquidators.

More than 17,000 separate items were listed in these documents, which complete the sale-purchase agreement of February 13, 1947, and the actual transfer of the railways on March 1, 1948.

State Purchase of the Central Buenos Aires Railway

The last foreign-owned railway, the Central Buenos Aires Railway, has been acquired by the State. The debentures and guaranteed notes, to the nominal value of £4,541,500, and all interest up to the date of sale, have been cancelled by a single payment of £950,000. The share capital of 6,000,000 pesos (nominal) has been acquired through payment of the sum of 5,920,000 pesos, but the sellers agree to settle outstanding items to the total of 4,373,486 pesos.

BRAZIL

New Rolling Stock

Messages from the U.S.A. announce the shipment of 23 luxury coaches for use on the Central Railway between Rio de Janeiro, Bello Horizonte, and Sao Paulo. These coaches are part of an order of 63 placed with the Budd Company, which includes restaurant cars, baggage vans, postal vans, saloon coaches with bar, and office and observation coaches similar to those in service on American lines. The vehicles are fitted with air-conditioning apparatus and fluorescent lighting (in the case of passenger coaches); some will have accommodation for 76 passengers and others for 56. The sleeping cars are divided into 12 double-bedded compartments.

FRANCE

Rail-Road Co-ordination Plan Suggested

A five-year plan for the co-ordination of the French National Railways and road haulage services was suggested recently by M. Letalien, Chairman of the French National Federation of Road Hauliers (Fédération Nationale des Transporteurs Routiers). This scheme would enable the lorry services and the railway goods services to thrive side by side without excessive competition. This problem was widely discussed at the recent congress of the road hauliers at Lille. From the railway standpoint the discussions at the congress were of particular interest in view of the heavy deficit incurred by the National Railways and the closing down now being considered of uneconomic lines totalling from 6,210 to 9,100 route-miles (10,000 to 15,000 km.). Speaking of the criticisms levelled against the tariff system of the National Railways, which in some economic quarters are considered too complicated and tending towards ex-

cessive control, M. Letalien emphasised that the Federation was opposing the new tariffs proposed by the National Railways. The guiding principle for the Federation's tariffs was the actual cost of transport with the end in view of placing at the disposal of the customers the maximum transport potential at the minimum price possible.

Light Railways Replaced by Road Services

The system of metre-gauge light railways owned and worked by the Département de Vendée (on the Atlantic coast south of Nantes) and known as "Tramways Vendéens" is to be abandoned in accordance with a recent decision of the Conseil Général de la Vendée. The system is 155 route-miles. Its 20 steam locomotives, six railcars, 60 coaches and 100 wagons are to be sold to the light railway system of the Dordogne Département (east of Bordeaux). The Tramways Vendéens are to be replaced by bus and lorry services operated by the Société des Autobus Vendéens which worked the lines before 1939. The two principal lines of the Tramway Vendéens are between Bourgneuf-en-Retz (on the Nantes-Pornic railway), Fromentine, and Les Sables-d'Olonne (about 55½ route-miles) and between Fromentine and Challans (about 15 route-miles). Fromentine is the port from which shipping services operate to the Ile d'Yeu.

JUGOSLAVIA

New Forest Railways

Eighty-seven route-miles of forest railways are to be built in Bosnia and Herzegovina this year. Some 106 route-miles of forest railways lying derelict since the war will be renovated. The whole scheme involves an expenditure of approximately £2,050,000 and is to be completed by October next. It has been stated that the new system of lines will allow the opening up of forest land, the timber wealth of which has not been exploited so far because of lack of communications. The building of some 93 route-miles of forest railways was taken in hand recently in Slavonia, where wide areas are thickly forested.

In the past, forest railways in Bosnia, Herzegovina, and Slavonia have been of particular importance not only for the working of the forests but also, to a limited extent, for the conveyance of passengers

and goods, more so as other means of long-distance conveyance were not available. Gradually, certain forest railways (all narrow-gauge, either 1 ft. 11½ in. or 2 ft. 5½ in.) developed regular passenger and goods services, and these have been increased despite the establishment of standard-gauge railways in the areas. One of the longest forest railways, originally used exclusively for the conveyance of timber and technical equipment as well as for the workers, was the 170-mile line between Prijedor in north-western Bosnia and Knin in Dalmatia, enabling the timber to be exported via Dalmatian ports.

New Branch in Croatia

The building of a short standard-gauge branch line, 5½ miles long, in the north of central Croatia, was announced recently. The new railway is to branch off at Pitomaca from the standard-gauge line which follows the frontier with Hungary and will terminate at Sedlarica. Pitomaca is 5 miles east of Klostar, a junction where lines from the Zagreb-Budapest main line meet.

AUSTRIA

Electrification Completed to Linz

The electrification of the 34-mile double-track main line between Attnang-Puchheim and Linz, begun in 1947, was completed in time to allow the electric traction on the main line from Salzburg to be extended to Linz as from May 15, when the summer timetable came in. The most important main line of the Federal Railways, between Vienna, via Linz, Salzburg, and Innsbruck, to Buchs, on the Swiss frontier, a distance of 459½ miles, is now electrified for 342 miles. The Linz-Vienna section, 117 route-miles, remains to be converted.

DENMARK

Summer Services

The summer timetable, introduced on May 15, shows several important improvements. The passenger service is now 90 per cent. of the pre-war service. Many trains have been speeded up. The 8.15 a.m. from Copenhagen to Jutland now takes 9 hr. 10 min. to Aalborg, against 10 hr. 40 min., and in the opposite direction 9 hr. 15 min. against 10 hr. 23 min.

A new fast international service, the "Skandiapilen" (the "Scandinavia Arrow") shortens the running time

between Copenhagen and Gothenburg and Oslo. There is also a new international service to Italy. A new Lyntog service runs between Copenhagen and Struer via Vejle-Herning. It runs three days a week, leaving Struer at 7.36 a.m. and reaching Copenhagen at 2 p.m. It leaves Copenhagen again at 5.10 p.m. and reaches Struer at 11.37 p.m.

In the Copenhagen area the electric line to Ballerup has a 20 min. service all day.

Private Railway Taken Over

On April 1 the State Railways took over the largest private railway in the country, the Sydfynske Jernbaner (South Funen Railways), comprising 218 km. (135 miles) of single track line and an equal length of bus routes in the Island of Funen. The South Funen Railways owned only the section from Odense to Svendborg (47 km.); that from Nyborg to Faaborg (56 km.) was built in 1882 by the State and immediately leased to the South Funen Railways. The three remaining lines, Odense-Faaborg (51 km.), Faaborg-Svendborg (26 km.), and Nyborg-Svendborg (38 km.), were built by three separate private companies and also leased to the South Funen Railways.

According to contracts of 1922, the company had to pay considerable rents to other companies and to the State. In the 1930s, because of changed economic conditions in the country, the company could not pay its rents, and had to obtain a moratorium.

After investigations it was agreed in 1942 that the State Railways should take over the South Funen Railways on condition that the State Railways would pay for the Odense-Svendborg line kr. 5,000,000, to pass to the company's pension fund. A loan of kr. 1,000,000, which the company had obtained earlier from the State, and of which most remained, was cancelled. The lines were to be privately worked until 1949, and all surpluses between 1942 and 1949 were to be paid into the pension fund. The State Railways take over the staff, but not the pension obligations, except that from 1949 they pay 12 per cent. of the salaries and wages yearly to the pension fund.

As the Nyborg-Faaborg line belonged already to the State there was no payment for it. The three other lines remain private, but the State Railways work them under new contracts. The South Funen Railways owned 22 locomotives, 12 railcars, 53 coaches, and 529 wagons.

New Station at Verona



Exterior of new station building recently opened at Verona, Porta Nuova, Italian State Railways (see paragraph in our April 22 issue)

Reconstruction and Drainage of Permanent Way at Hougham, Eastern Region

Extensive works to improve the roadbed and facilitate maintenance on a soft clay formation

DURING the past few months, British Railways have carried out reconstruction and drainage of the clay formation underlying the track at Hougham, near Grantham. The work forms part of a comprehensive scheme to overtake maintenance arrears and remove speed restrictions between Peterborough and Doncaster, on the East Coast main line. Maintenance of the track at Hougham has been difficult for the past 40 or 50 years, and in the course of the recent operation remains of former drainage systems, sleeper cribs, and layers of spent moulding sand overlying the clay, have been exposed. It was decided, many years ago, that the only satisfactory solution of the problem was to

case sand), and the excavation necessary to accommodate filling of sufficient depth to avoid over-stressing the clay was assessed. The drainage system was then designed to collect the water from the new formation, and discharge it at the nearest outfalls.

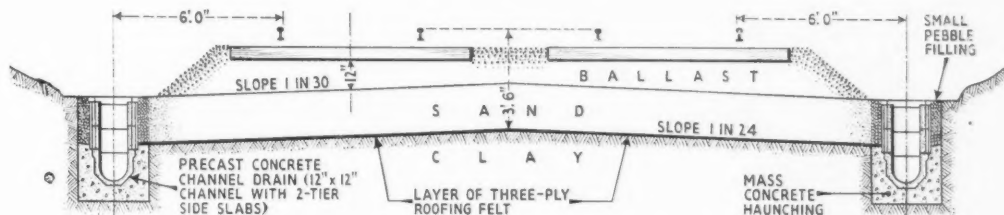
Drainage

The drains provided are of both pipe and channel types, pipes being used where the depth is too great for the construction of a channel drain at reasonable cost. The drain trenches were excavated 6 ft. from rail to centre, and both pipe and channel drains were set on a haunched concrete bed. To provide a strong interlocked filling, to support the track, and allow water

Pre-cast units of five types were used in the construction of the channel drains. Inspection pits, of adequate size for rodding, were provided in the pipe drain at a maximum of 150 ft. intervals. In the channel drains, which are more easily inspected and cleaned out, a greater spacing of pits has been permitted, but to provide a collecting place for sediment, the interval is not greater than 300 ft.

It was decided to spread the work over eight Sundays; and complete possession of the up and down main lines was obtained, so that excavation of the formation of one track could be carried out while spoil and sand wagons were occupying the adjacent track. During each possession, a length of 140 yd. was dealt with when two excavators were used, or 200 yd. with three excavators.

For a weekend operation, three trains of 55 "low medium" empty wagons were kept available, and one train of up to 60 wagons of sand was loaded at Newark. The low-sided wagons have drop sides to



Typical cross-section of track, showing sand filling, and new drainage

excavate the surface material and provide a sound formation, with a crossfall to drains of adequate capacity.

After surveying and levelling at the site had been carried out, test borings and samples were taken, to determine the maximum pressure which the clay would withstand at various depths. The results obtained were compared with calculated values of pressure produced by traffic, for varying depths of filling material (in this

to reach the open joints of the pipe, the trench above the pipe drain was filled with pebble ballast, graded from $\frac{1}{4}$ in. to 2 in. This filling is sufficiently close-packed to prevent clay working into the interstices between the ballast, but to avoid breakage of the earthenware pipes, and to provide a closer filter near the joints, a 12-in. layer of small pebble ballast was placed round the pipes before the main filling was commenced.

facilitate unloading of sand by hand, and to enable the spoil to be unloaded by means of "pusher" machines at Conington tip, near Huntingdon. In addition, 15 twenty-ton hopper wagons of slag were worked from the normal source of supply near Frodingham. The weekend operation involved six locomotives, to work trains to the site and afterwards to the stabling and unloading points.

Excavation commenced immediately



The works in progress, showing laying of roofing felt, and unloading of sand filling

after the removal of the permanent way, and was carried out by 19 R.B. excavating machines fitted with dragline equipment, assisted by D4 angledozer, which trimmed the formation to the required level and crossfall. The angledozer loosened and heaped the spoil for the excavators, which were able to load directly into the wagons on the adjacent track. The excavators worked from north to south, and were so placed that each carried out approximately half the excavation.

When both machines had filled a wagon, the train was moved forward, one wagon at a time, until the wagons loaded by the leading excavator reached the other machine. The train then moved forward to place a second set of empty wagons, and normally a train provided three such sets of wagons. If necessary, another train was then propelled from the other end of the site, to provide a continuous supply of wagons.

The side of the excavation adjacent to the undisturbed track was faced with sandbags, to prevent subsidence of the new sand filling under the weight of the spoil and sand trains during the subsequent weekend, when the adjacent track was dealt with. When the drain trenches were not completed, it was possible to increase the width of the main excavation and insert one side of the trench timbering. This procedure enabled the upper portion of the drain excavation to be done in sand during the following weekend. The com-

pleted excavation was trimmed by hand, and covered with three-ply roofing felt before the sand was unloaded.

Unloading of sand commenced as excavation was being completed, and was carried out by hand. The angledozer spread and partly consolidated the sand to 2 in. below sleeper level. When the filling was completed, a layer of ballast was deposited from the hopper wagons, and spread and consolidated by hand and an angledozer. The track was relaid, and, after the rolling action of the ballast train, consolidation was such as to enable 8½ in. of bottom ballast to be provided under the sleepers. Further lifting was carried out under traffic, and a final lift was given, to provide 12 in. of bottom ballast, after a thorough consolidation had taken place.

Relaying the Track

It was expected that wagon supply and the rate of excavation would be the factors governing the length which could be undertaken during each possession, but experience showed that the relaying of the track was more likely to cause delay, especially if it was not possible to lift out the track in sections with a crane. The 600 yd. of double track were dealt with during eight Sundays of complete possession. During a typical possession of 17 hours, 600 cu. yd. of material were excavated, and replaced with 400 cu. yd. of sand and 180 tons of ballast. The number of men employed increased from 60,

while the excavation was in progress, to 100 during the unloading of the sand; and 80 men were required to discharge the ballast and relay the track.

A complete diversion of traffic was unavoidable during the Sunday possessions, as there are only two tracks where most of the excavation was required. The possibility of keeping a single line open was considered, but this would have required a much longer period. The total delay due to single-line working would have far exceeded that arising from complete possessions and consequent diversion of traffic via Lincoln, with bus services to stations from which it was necessary to divert Sunday trains.

During the period of traffic diversions, opportunity was taken to carry out the normal annual programme of relaying and bridge repair work on the double track section of the line covered by the diversions. Such work, under normal conditions, would have involved single-line working on Sundays, and, later in the year, weekend traffic should be subject to less delay on account of engineering operations.

The works were carried out under the direction of Mr. J. I. Campbell, M.I.C.E., Civil Engineer, Eastern Region, and were supervised on the site by Mr. H. T. Bird, A.M.I.C.E., District Engineer, Peterborough. W. & C. French Limited were the contractors for the excavation and drainage work.

New L.M.R. Dynamometer Car

Designed for variable speed testing on service trains and for work in conjunction with mobile testing units

IN our issue of September 5, 1947, we described and illustrated the new mobile testing plant of the then London Midland & Scottish Railway, which had been authorised as far back as 1936, and which include three braking units for use in any combination or singly. These three units are very similar in design, except that they have different gear ratios for testing different locomotive classes and have maximum speeds of 50, 90, and 120 m.p.h. respectively. The master controls

for all the units are mounted in a dynamometer car which serves both as an independent vehicle for controlling the braking units and to measure the speed and drawbar pull.

A new London Midland Region dynamometer car, No. 3, recently has been completed. This was commenced before the war and its construction deferred because of the national emergency. It was provided for the dual purpose of carrying out variable speed testing on ser-

vice trains and of working in conjunction with the mobile testing units for constant-speed testing.

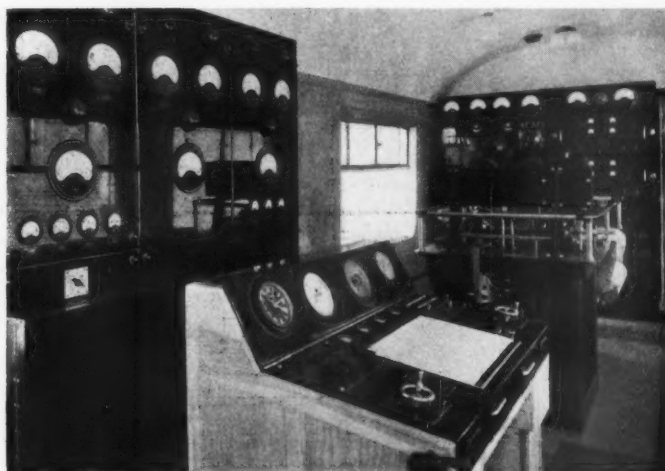
The vehicle, which is 60 ft. long and weighs 40 tons, is carried on two four-wheel bogies, the leading one of which also incorporates a road wheel which can be lowered on to the track in order to drive the dynamometer chart. The dynamometer and recording table are of the Amsler type employing the hydraulic principle.

Principal Compartments

The vehicle is divided into five principal compartments, consisting of a small brake end (with handbrake column, cooking equipment, and storage space), the recording and control room, a dark room for the electrical indicator, a chemist's compartment (at present not fitted up), and a first class riding compartment for the staff. There is also a lavatory and trailing end vestibule. The car is fitted at both ends with standard corridor connections.

The recording and control room contains an instrument panel fitted with pyrometer, draught gauge indicators, etc., a control desk and panel which house the master controls for the mobile units, the Amsler recording table, and the motor generator control panel in connection with the power supply needed for the Amsler table and the mobile unit control. A five-unit motor generator set and batteries are carried under the car amidships, and one axle of the trailing bogie drives a large generator.

The Amsler table records on a roll of paper driven by the road wheel on a distance basis. Drawbar pull is obtained directly from the pressure in the hydraulic cylinder and pull and distance are integrated mechanically to give the work done. Differentiating mechanisms are employed in conjunction with a constant-speed drive to give train speed and horsepower. Other indications on the chart are wind



The recording and control room of the new dynamometer car showing the control desk and motor generator control panel

speed and direction from the anemometers and time and location markings.

The exterior appearance of the vehicle, which is shown in the photograph reproduced on the right, is in keeping with the standard L.M.R. carriage stock, the body consisting of steel panels on a hardwood frame-work. The window lights are glazed flush with the panels and fitted with sliding ventilators. The underframe is of all-welded steel construction, as also are the bogies.

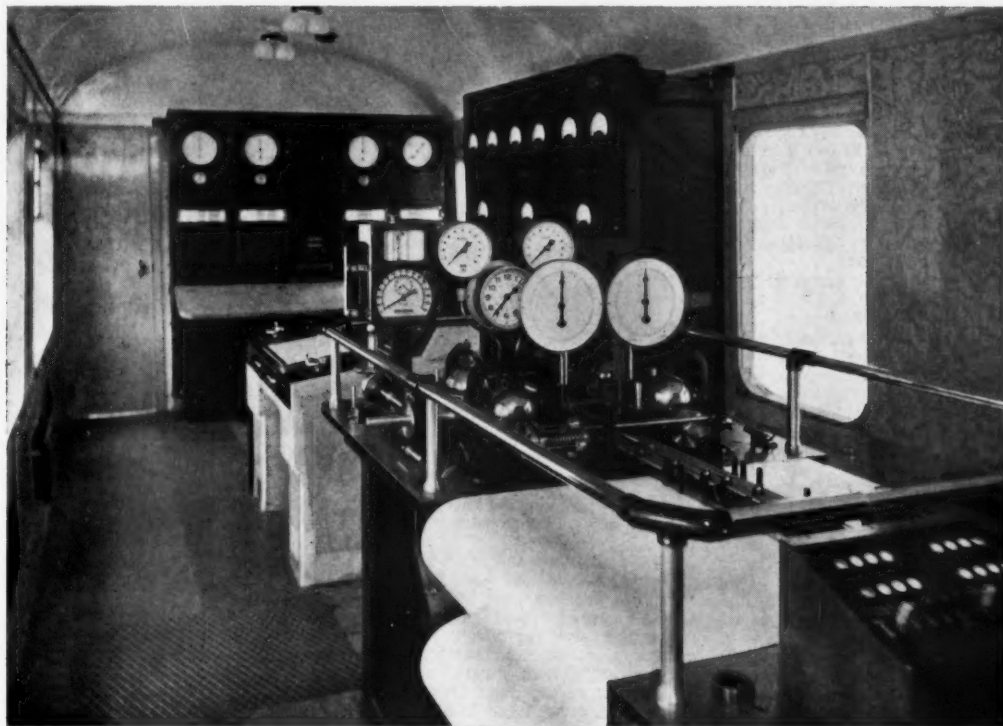
The following contractors have supplied certain components of the car: Dynamometer and recording table, Alfred J. Amsler & Company, Schaffhausen, Switzerland; electrical equipment, British Thomson-Houston Co. Ltd., Rugby; instruments, Negretti & Zambra; roller bearing axleboxes, British Timken Limited; train lighting generator, J. Stone & Co. Ltd.; batteries, D.P. Battery Co. Ltd.; gear cutting, David Brown & Sons Limited.

The vehicle has been built in Derby, the body and bogies in the Carriage & Wagon Works, and the underframe in the Loco-



Exterior view of car showing the road wheel which can be lowered to drive the dynamometer chart

motive Works. The main designs were prepared before his retirement by Sir William Stanier, F.R.S., and were then finalised by Mr. H. G. Ivatt, M.I.Mech.E., Chief Mechanical Engineer, London Midland Region.



The Amsler recording table in the control and recording room of the new dynamometer car

REGIONAL ADJUSTMENTS: BRITISH RAILWAYS.—As from June 1 the commercial responsibilities in respect of the Ffrwyd Junction (between Gwersyllt and Cefn-y-Bedd) and Chester to Birkenhead section of line at present held by the Eastern Region will be transferred to the London Midland Region. Information respecting goods, coal, or passenger train traffic or facilities after that date can be obtained from the following District Officers: Cefn-y-Bedd to Connah's Quay inclusive and Chester (Liverpool Road) to Hawarden Bridge inclusive: Mr. F. H. Fisher, District Traffic Manager, L.M.R., Chester; Burton Point to Bidston inclusive and Birkenhead Dock Road and Duke Street Depots: Mr. D. S. Inman, District Goods Manager, L.M.R.,

Edmund Street, Liverpool (goods and coal traffic); Mr. T. C. Byrom, District Passenger Manager, L.M.R., Lime Street Station, Liverpool (passenger train traffic).

STEAM TURBINE ROTOR FLOWN TO KENYA.

—The rotor for a B.T.H. 1,500-kW. turbo-alternator was recently flown from Elmdon Air Port, Birmingham, to Nairobi in Kenya. By utilising air transport, this rotor was at its destination, Ruiru only three days after leaving the Rugby works. The firm of Balfour Beatty & Co. Ltd., 66, Queen Street, London, E.C.4, on behalf of the East Africa Power & Lighting Co. Ltd., purchased this turbo-alternator, which had been installed in a power station and had

become redundant, in 1944. Being in good condition the machine was dismantled, sent to Kenya, and re-erected on its new site. Recently, after about five years of service, it was decided to return the rotor to Rugby for reconditioning, and while it was in transit the necessary material was prepared.

BURMA RAILWAYS.—The Burma Corporation has announced that because of the continued closure of Burma Railways since January 23, 1949, the programme of rehabilitation and production, which had yielded promising results until the closure of the railways, has had to be abandoned and the earlier programme of care and maintenance resumed.

South African Railways "24" Class Locomotives

2-8-4 type locomotives with cast-steel frames, under construction by the North British Locomotive Co. Ltd.

THE North British Locomotive Co. Ltd. at present has under construction 100 2-8-4 locomotives for the South African Railways. This new type of locomotive, which has been designated the "24" class, is being built to the design and requirements of Dr. M. M. Loubser, Chief Mechanical Engineer of the South African Railways, and inspection of the locomotives at the builder's works is under the supervision of the Advisory Engineer, Office of the High Commissioner for the Union of South Africa in London.

Cast-Steel Frames

The locomotive, designed to operate on 45-lb. rail sections, has a number of features which are departures from standard South African Railway practice. Most notable of these is the introduction of the one-piece cast-steel frame, or bed. Due to the light rail section and consequent restrictions on axle loading, great care was necessary to ensure that the maximum specified axle-load was not exceeded. The frame was designed to the minimum weight by the closest collaboration between the North British Locomotive Co. Ltd. and the suppliers of the cast-steel beds, the General Steel Castings Corporation of America. The cylinders and hind covers are cast integral with the bed, and the barrels are finish machined for the fitting of cast-iron liners.

The boiler, which is of the same proportions as the standard S.A.R. No. 1 boiler, is 5 ft. 4½ in. outside dia. at the throat plate and 5 ft. 1½ in. outside dia. at the smokebox tubeplate. A composite inner firebox is fitted, the tubeplate being of steel and the wrapper and door plates of copper. Flexible stays of S.A.R. standard pattern are fitted in the breaking zones in the side plates and also the front rows of the crown stays. Rigid water-space stays are of copper at sides and back, and steel at the throat plate.

The distance between the tubeplates is 17 ft. 9 in., and there are 76 small tubes of 2½ in. external dia. and 24 superheater flue tubes of 5½ in. external dia. The superheater, which is identical to that fitted to the "19D" class locomotives recently constructed by the same firm, is of the multi-valve regulator type, located in the smokebox. Everlasting blow-off cocks and two Gresham & Craven No. 10 live-steam injectors are provided.

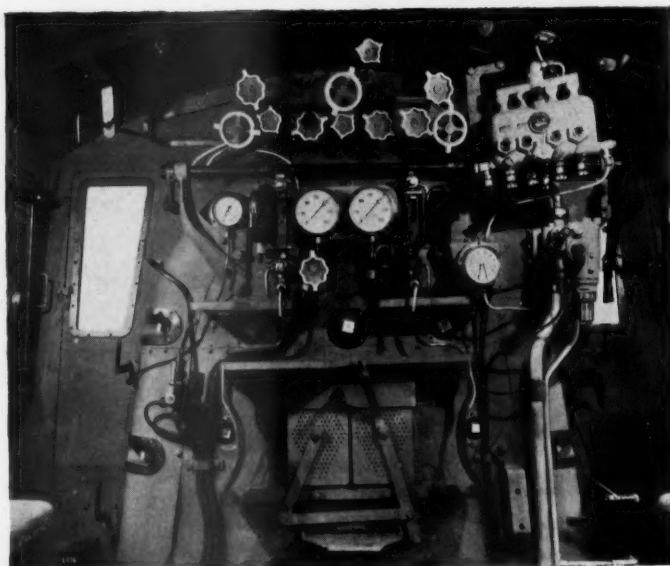
A steam-operated rocking grate is fitted and two hand-operated drop-grates are provided at the front of the firebox. The hopper-type ashpan is fastened to the main frames only to facilitate removal of the boiler, and the gaps between ashpan and foundation ring provide under-fire air. The smokebox is of cylindrical formation and is fitted with a spark arrester of the self-cleaning type.

Walschaerts valve gear actuates the 10-in. dia. piston valves, and steam reverse gear of standard S.A.R. pattern is fitted.

bogie. The engine and tender are equipped with Alliance couplers and draft-gear of Spencer Moulton type is fitted to the tender only.

The coupled bearing springs are of the overhung type, and compensation is arranged in two groups, the truck, leading and intermediate wheels being the front group, and the driving, trailing and bogie wheels the hind group. Coupled axle-boxes are of bronze, lubricated by Ajax grease cellars, and adjustable steel wedges and guides are fitted to the horn gaps.

The engine is equipped with two 21-in. vacuum cylinders located over the driving wheels and operating on the rear of the first three pairs of coupled wheels. The tender has two similar cylinders outriggered on the underframe between the bogies and



Cab fittings

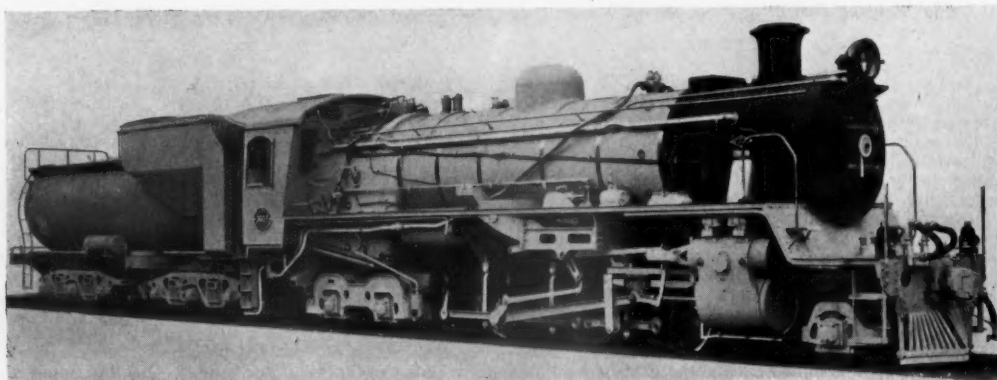
Lubrication of the cylinder is by means of a Wakefield hydrostatic 4-feed lubricator.

The front truck and hind bogie frames are steel castings and fitted with constant resistance centring devices of the rocker type. The hind bogie is of the three-point suspension type, the weight being carried on the pivot point at the front and on the centring devices situated on each side of the rear of the bogie frame. Timken roller bearings are fitted to both truck and

arranged to act independently of each other on the brake gear of the separate bogies. A hand brake is fitted to act on the rear bogie wheels only. The brake and spring gear bushes are of the Walter patent split type.

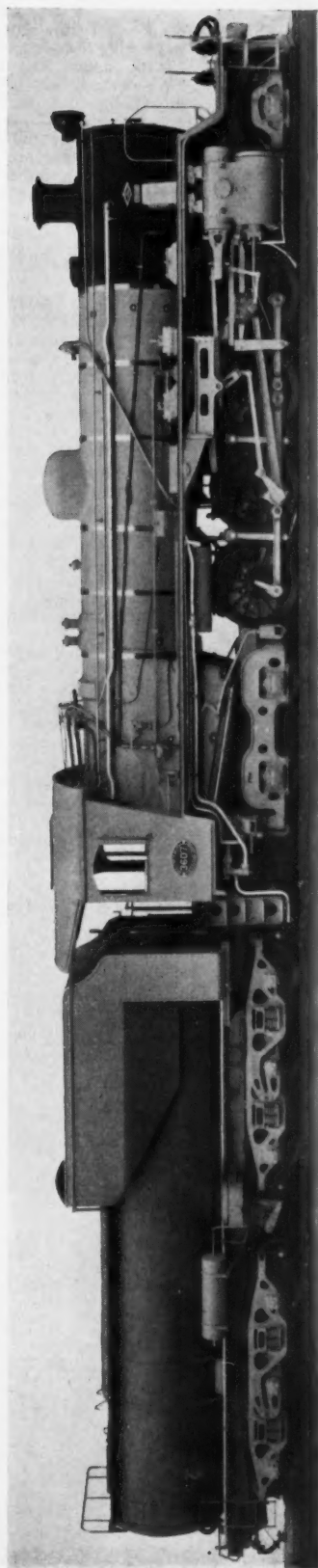
The tender is a smaller version of that recently constructed for the "19D" class S.A.R. locomotives by the North British Locomotive Co. Ltd. The circular butt-

(Continued on page 589)

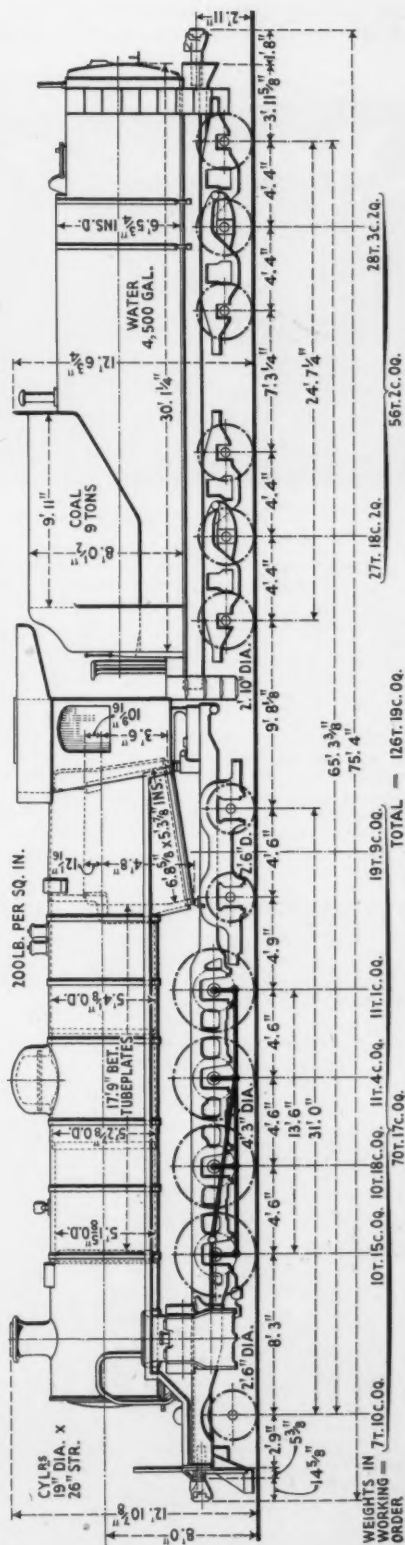


Diagonal view of South African Railways "24" class locomotive

South African Railways "24" Class Locomotives



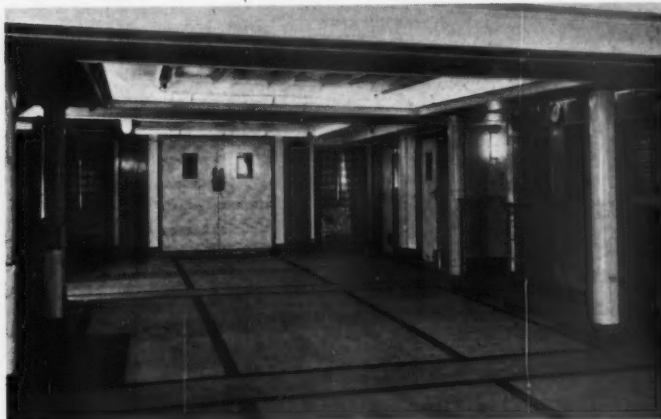
One of the 100 2-8-4 type locomotives at present under construction for South African Railways by the North British Locomotive Co. Ltd.



Principal weights and dimensions of the new "24" class locomotives

Motor Vessels for L.M.R. Holyhead Service

Designed to carry 2,000 passengers each, the "Hibernia" and "Cambria" are the largest vessels in the British Railways fleet



First class vestibule and bureau

TWO motor passenger vessels of 5,200 gross tons each, intended for the Holyhead-Dun Laoghaire service of British Railways, recently have been completed at the Belfast yards of Harland & Wolff Limited. These two sister ships, the *Hibernia* and the *Cambria*, are each 397 ft. in length and 54 ft. in breadth, and the inaugural cruise of the *Cambria* took place yesterday, May 26. They are the largest cross-Channel vessels in the British Isles and will be a valuable addition to service between Great Britain and Ireland.

Each vessel will carry 2,000 passengers, with sleeping accommodation for 436. There are two cargo holds and between

decks forward for the carriage of general cargo and motorcars. The passenger accommodation provides for 166 first class in single and two-berth rooms, and 56 in two open-berth rooms. Accommodation for 154 third class passengers is provided in two- and four-berth rooms, and for 60 in two open-berth rooms.

The first class lounge, which is situated at the forward end of the promenade deck, is 95 ft. long by 37 ft. wide, its length being broken only by a glazed screen which divides the lounge into two portions. Light veneers form the main decorative features. The lighting is provided by means of flush panels recessed into the deckhead.

Furnishings sound a new note in railway-operated ferry services insofar as they do not carry the stamp of standardisation. In creating the decorative schemes, not only for this lounge, but throughout the vessel, an endeavour has been made to give the impression of a miniature luxury ocean-going liner.

The first class smokeroom is approached through an entrance situated aft of the main lounge, and there is a large open bar at the after end in the form of a semi-circle. Fixed seats are fitted at the sides, and a general arrangement of card tables, open arm-chairs, tub chairs, and easy chairs forms the centre furnishings.

Luxury Suites

Descending from the first class lounge on the promenade deck to the upper deck, we come to the main embarkation first class entrance, where lighting is provided by suspended trough fittings arranged in bays. Forward of this entrance, four luxury suites are arranged, two on each side. Each room contains a cot bed, bed-settee, built-in wardrobe, dressing table, and chairs. Each of the suites possesses its own bathroom and separate toilet.

The first class dining saloon, seating 80 passengers, is situated on the main deck. The bulkheads are treated with Californian eucalyptus and relieved with Queensland maple. The stanchion casings and the pilasters are painted a soft blue. The dining chairs are in mahogany with slate-blue hide upholstery.

In the third class public apartments also a feature has been made of cheerful colourings, and altogether the accommodation marks an advance on previous vessels, mainly with a view to opening the two classes into one on certain occasions.

A third class entrance lounge is situated on the upper deck, seating 87 people. At the aft end of the promenade deck is the third class smoking-room with a large open semi-circular bar at the forward end.

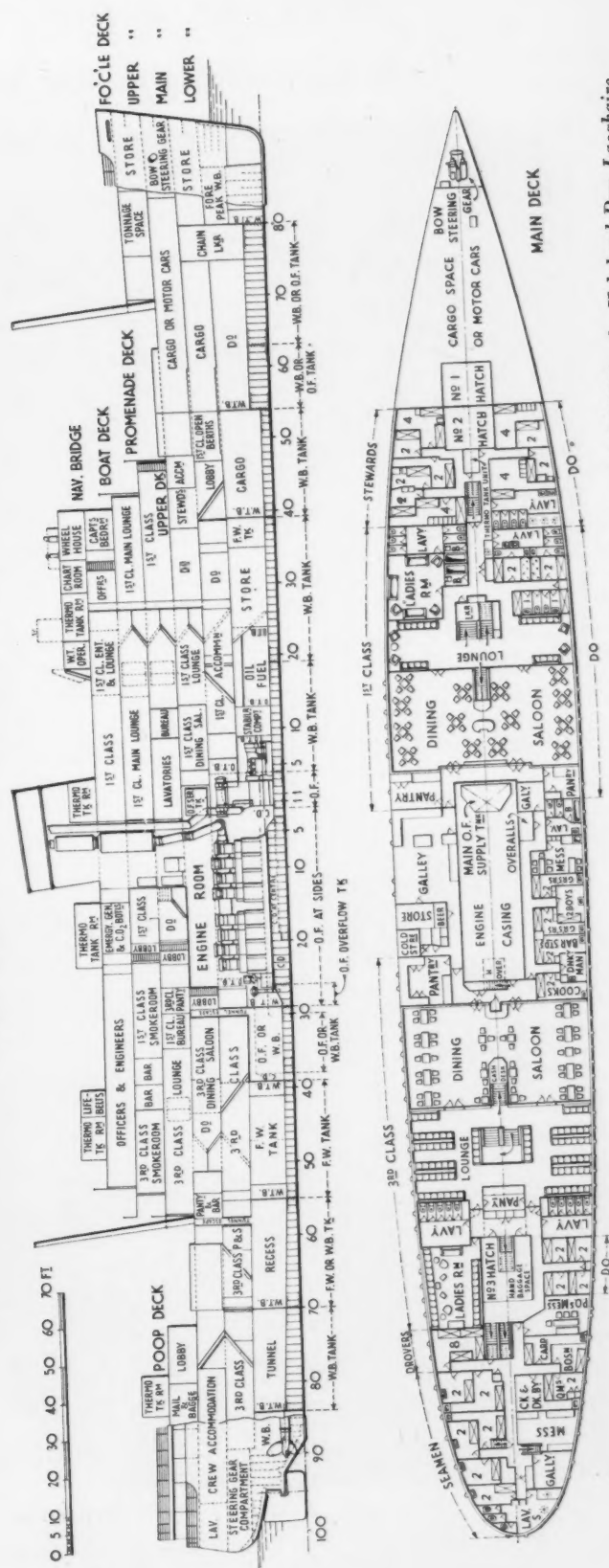


Third class entrance lounge with seating accommodation for 87 passengers

Motor Vessels for L.M.R. Holyhead Service



M.V. "Hibernia" leaving Holyhead on a trial trip



Sectional elevation and plan of main deck of the "Hibernia" and her sister ship "Cambria," built by Harland & Wolff for the Holyhead-Dun Laoghaire service of British Railways

Motor Vessels for L.M.R. Holyhead Service



First class smokers room and bar



First class lounge on the promenade deck

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RAILWAY NEWS SECTION

PERSONAL

Sir Robert Sinclair, Deputy-President of the Federation of British Industries, has been elected President of the Federation, in place of Sir Frederick Bain, who has retired after two years as President.

Sir Wilfrid Ayre has been appointed to the board of the Dundee, Perth & London Shipping Co. Ltd. He is a part-time Member of the Railway Executive.

Mr. F. Munns has been appointed Carriage & Wagon Engineer, Southern Region, British Railways, with headquarters at Brighton Works.

Lord Hacking has joined the board of the Cornhill Insurance Co. Ltd., and has been appointed Chairman in the place of the late Sir Frederick Heaton.

M. Marcel Flouret, Chairman of the Board of Administration, French National Railways, has relinquished that position and has been succeeded by M. Pierre Tissier.

We regret to record the death, at the age of 85, of Mr. James Railton, C.B.E., who retired in 1926 from partnership in the then firm of Topham, Jones & Railton, which was responsible for much railway and dock construction work.

We regret to record the death on May 16, at the age of 62, of Mr. Walter Jackson, who retired recently as General Manager for the Middle East, Thos. Cook & Son Ltd.

Mr. John L. Richardson, Assistant to Chief Regional Officer, London Midland Region, British Railways, who retired on April 30, was recently presented by his colleagues with a writing bureau. Mr. G. L. Darbyshire, Chief Regional Officer, presided at the ceremony.

We regret to record the death on May 18 of Mr. Henry Towers, Managing Director of A. Reyrolle & Co. Ltd.

Mr. S. W. M. Hind, Press Relations Representative, North Eastern Region, British Railways, is retiring.

ROAD TRANSPORT EXECUTIVE

The Road Transport Executive announces the following appointments:—

Mr. J. T. Trench (formerly Assistant Chief Engineer, Hay's Wharf Cartage Co. Ltd.) to be Divisional Engineer, South Eastern Division (Freight).

Mr. E. J. Holmes (formerly on the staff of the Ministry of Town & Country Planning in the Midland Region) to be Divisional Surveyor, North Eastern Division (Freight).

Mr. J. Newton (formerly Managing Director, Northern Motor Utilities Limited) to be Divisional Traffic Officer, North Eastern Division (Freight).

Mr. C. H. Sutherland, who is retiring from the position of Accountant, London Midland Region, British Railways, began his railway career in the Traffic Manager's Department, Highland Railway, in 1905. Two years later he was transferred to the Accounts Section of the Engineering Department, and in 1913 to the Accountant's Department. In 1925, after the formation of the L.M.S.R., Mr. Sutherland was transferred to Euston as an investi-



Elliot

Mr. C. H. Sutherland

Accountant, London Midland Region, British Railways, who is retiring

gator of the expenditure and costs, and in 1934 he was appointed Assistant to the Accountant, from which position he was promoted Assistant Chief Accountant in 1937. In 1933 he was selected as an assistant to the Royal Commission appointed under the chairmanship of Sir Guy Granet to inquire into the financial position and working of the South African Railways. In November, 1947, Mr. Sutherland was appointed Acting Chief Accountant of the L.M.S.R., in succession to Mr. G. Morton, Chief Accountant, when Mr. Morton was appointed Chief Financial Officer to the Railway Executive; and since January 1, 1948, he has been Accountant, London Midland Region. (See also page 573).

Mr. D. B. Bulman, Chief of the Expenditure Audit Division of the General Mitre Railway (former Central Argentine), has resigned to take up a post with the Legal & Commercial Representation of the ex-British railway companies in Argentina.

We regret to record the death on May 13, at the age of 78, of Major A. B. H. Clerke, C.B.E., formerly Deputy-Chairman & Joint Managing Director of Hadfields Limited.

We regret to record the death of Dr. Enrique Ruata, of the Argentine Railways Central Purchasing Commission in London.

The completion of 35 years railway service by Mr. Walter S. Thompson, Director of Public Relations, Canadian National Railways, was celebrated informally in Toronto recently, when journalists extended their congratulations at a Canadian Press directors' luncheon.

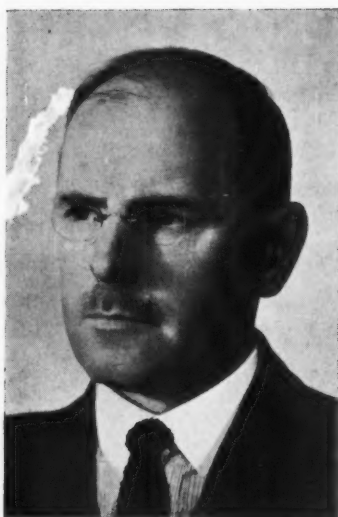
Mr. J. A. G. Balderrin, Chief of Transport of the General San Martín Railway (former Buenos Ayres & Pacific), has retired, after 44 years service.

INSTITUTE OF TRANSPORT

The undernamed have been elected by the Council of the Institute of Transport to hold office for the year commencing on October 1, 1949:—President: Brigadier-General Sir H. Osborne Mance; Vice-Presidents: Mr. R. Davidson, Sir Robert Letch, Mr. V. A. M. Robertson, Mr. A. B. B. Valentine; Mr. J. S. Wills, Mr. W. Donaldson Wright; Honorary Treasurer: Mr. S. Kennedy; Honorary Librarian: Mr. C. T. Brunner. Past-Presidents to serve on the Council: Mr. R. Kelso, Sir Frederick Handley Page, Mr. D. R. Lamb, Mr. R. Stuart Pilcher, Mr. T. W. Royle, Sir William Wood.

The undernamed Ordinary Members of Council will retire at September 30, 1949:—Nine Members:—Messrs. J. W. S. Branner, O. H. Corble, W. F. French, H. Howells, G. Leedam, A. J. Pearson, H. Rudgard, H. A. Short, B. G. Turner; one Associate Member: Mr. W. Bray.

To fill the vacancies created by the foregoing retirements, the Council has nominated the undernamed:—Nine Members: Messrs. John Benstead (Deputy Chairman, British Transport Commission), Francis Hilary Cave (Deputy General Manager and Secretary, Mersey Docks & Harbour Board), John Cooper (General Manager, Northampton Corporation Transport), Henry Charles Crane (Transport Manager, J. Lyons & Co. Ltd.), Herbert Howard Crow (Chairman and Managing Director, Crow Carrying Co. Ltd.), Andrew Hastie (Transport Officer, British Electricity Authority), Robert Hobart Mayo (Consulting Aeronautical Engineer; formerly Technical General Manager, Imperial Airways Limited), John William Watkins (Operating Superintendent, London Midland Region, British Railways), Alexander John Webb (General Superintendent, Staff & Training, London Transport Executive), and one Associate Member: Captain Alfred George Course (Dockmaster, Surrey Commercial Docks, Port of London Authority).



Mr. W. L. Watson

Engineer-in-Chief, Crown Agents for the Colonies, 1948-49

Mr. W. L. Watson, C.B.E., A.M.I.C.E., M.I.Loco.E., who is retiring from the position of Engineer-in-Chief to the Crown Agents for the Colonies, was born on February 25, 1883, and was educated at the Grammar School and Robert Gordon's College, Aberdeen. He underwent a period of training at the locomotive works of the Great North of Scotland Railway at Kittybrewster and Inverurie, and afterwards at the Swindon works of the Great Western Railway. In 1912 he joined the Engineering Design Department of the Crown Agents for the Colonies. In 1915 he was seconded to the Raw Materials Department of the Ministry of Munitions, and in 1919 was made Deputy Head of the Crown Agents Engineering Design Department. In 1928 he was appointed Deputy Chief Engineer (Mechanical), and in 1935 became Chief Engineer (Contracts). In February, 1948, the former Designs, Contracts, and Engineering Inspection Departments of the Crown Agents

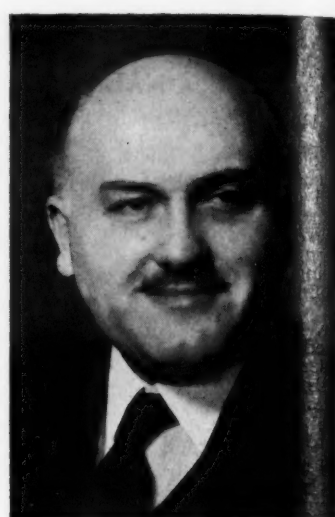


Mr. E. R. Cottet

Appointed Area Superintendent, North Western & Midland Area, Hotels Executive

were grouped under an Engineer-in-Chief, and Mr. Watson was appointed to that position. He is a Vice-President of the Institution of Locomotive Engineers. At the present time, Mr. Watson is on a special mission to Ceylon on behalf of the Crown Agents.

Mr. E. R. Cottet, who has been appointed Area Superintendent, North Western and Midland Area, for the Hotels Executive, British Transport, was born in Fribourg, Switzerland, in 1894, and received his education there. After leaving school he served two years' apprenticeship at hotels in Switzerland, and then spent two years in Germany, at the Kaiserhauf in Berlin. In 1913 Mr. Cottet came to England and entered the service of the Midland Railway at the Adelphi Hotel, Liverpool. From 1920 he served, successively, at the Midland Hotel, Bradford; the Queen's, Leeds; the Adelphi, Liverpool; the Midland, Manchester; and



Mr. E. J. Vacher

Appointed Area Superintendent, Scottish Area, Hotels Executive

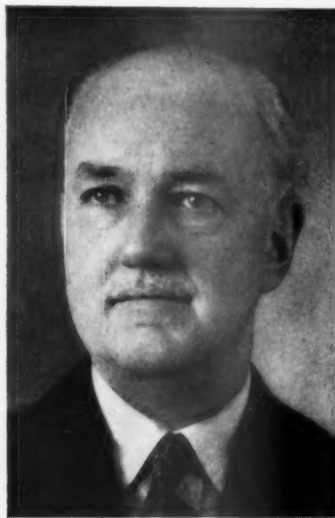
Gleneagles. He was appointed Manager of the Euston Hotel in 1937; of the Adelphi, Liverpool, in 1940; and, in 1943, of the Midland Hotel, Manchester, which position he vacates on his new appointment. Mr. Cottet reopened the Gleneagles Hotel in 1947.

Mr. E. J. Vacher, who has been appointed Area Superintendent, Scottish Area, for the Hotels Executive, British Transport, joined the L.M.S.R. Hotel Services in 1924. He held managerial positions in all the large hotels of the Hotel Services, and, in Scotland, particularly, at the Turnberry Hotel, at the Caledonian Hotel, Edinburgh, and at the Central Hotel, Glasgow, where he has been for the last fourteen years, and the Managership of which he now relinquishes on taking up his new appointment. Mr. Vacher is a member of the management and advisory committee of the Scottish Hotel School.



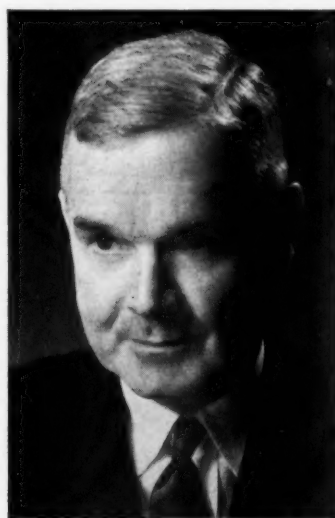
Mr. C. R. Atkins

Appointed Stores Officer, Scottish Region, British Railways



Mr. L. P. Ball

Appointed Divisional Operating Superintendent, Derby, L.M. Region, British Railways



Mr. M. D. Thompson

District Goods & Passenger Manager, Cambridge, L.N.E.R., and Eastern Region, 1946-49

Mr. C. R. Atkins, O.B.E., who has been appointed Stores Officer, Scottish Region, British Railways, entered the service of the L.N.W.R. at Crewe in 1913, in the Mechanical Engineering Department, and later transferred to the Stores Department. In September, 1914, he joined the Cheshire Regiment, and he served in France and Flanders until June, 1917, when he was commissioned to the Indian Army Reserve of Officers. After demobilisation in December, 1919, Mr. Atkins returned to the Stores Department at Crewe, and in 1923 transferred to the Stores Superintendent's Office, Euston, L.M.S.R. Later becoming a member of the Stores Inspection staff, he was closely associated with the preparation of the L.M.S.R. standard catalogue of all items stocked by the Stores Department. He joined the Royal Engineers, Transportation Branch, in February, 1940, and was posted as Staff Captain to the War Office. He was subsequently promoted D.A.D.Tn. (Stores), and afterwards took command of No. 1 Transportation Stores Group, R.E. Proceeding to Normandy immediately after D-Day in command of Advance Transportation Stores Troops, he was responsible for the opening of Transportation Stores Dépôts in France, Belgium, Holland, and, ultimately, in Germany. He was made an O.B.E. (Military) for services in North-West Europe and work in connection with the rehabilitation of German railways. Mr. Atkins was demobilised in July, 1945, and took up the appointment of Deputy Divisional Storekeeper, Northern Division, L.M.S.R. Early in 1948 he became Assistant Stores Superintendent, Scottish Region, British Railways.

Mr. L. P. Ball, Assistant (Freight Services), Operating Superintendent's Office, London Midland Region, British Railways, who has been appointed Divisional Operating Superintendent, Derby, was educated at Colet Court, St. Paul's, and Lycée Corneille, Rouen, and joined the Great Western Railway in 1909, in the Office of the Superintendent of the Line. During 1913 he obtained station experience in the London and Exeter Divisions, and in the next year joined the Army. He saw service at Gallipoli, and afterwards served with the R.F.C. and R.A.F. until 1919. Before demobilisation he was in charge of the Movements Branch of the R.A.F. at the Air Ministry. In 1919 he returned to the Office of the Superintendent of the Line, on the outdoor staff. In 1920 Mr. Ball was appointed Outdoor Assistant to Outdoor Superintendent, North Staffordshire Railway, at Stoke-on-Trent, and in 1924 became District Controller there for the L.M.S.R. In 1929 he was made District Controller, Birmingham (New Street), and, in the next year, Divisional Freight Train Controller, Western Division, Crewe. In 1936 he was appointed Assistant Divisional Superintendent (Traffic), Crewe. In October, 1939, he was detached to join Railway Executive Committee headquarters as Assistant to Mr. V. M. Barrington-Ward, Chairman of the Operating Committee. He was appointed Assistant (Freight Services), Chief Operating Manager's Office, L.M.S.R., in October, 1944.

Mr. M. D. Thompson, District Goods & Passenger Manager, Cambridge, Eastern Region, British Railways, who has retired, was born in 1884, and joined the North Eastern Railway at Darlington in 1898. He transferred in 1913 to the Middlesbrough district, where he remained until he enlisted in H.M. Forces in 1916. After his

return to railway service in 1919 he held positions in the Leeds and Middlesbrough districts until appointed Chief Clerk to the District Goods Manager, Manchester, L.N.E.R., in 1933. In 1937 he became Senior Rates Clerk to the Goods Manager, Southern Area, and was appointed Acting Assistant District Goods & Passenger Manager, Cambridge, in July, 1944. In February, 1946, Mr. Thompson was appointed District Goods & Passenger Manager, Cambridge.

MEMORIAL SERVICE FOR VISCOUNT PORTAL

The Duke of Gloucester and the Duke of Windsor were among those represented at a memorial service for Viscount Portal, who was Minister of Works, 1942-44, and the last Chairman of the Great Western Railway Company, 1945-47, held on May 19 at St. Michael's, Cornhill. Prebendary G. F. Saywell officiated, assisted by Bishop H. E. Hubbard. The large congregation, in addition to family mourners, included:—

Sir John Anderson, Director, C.P.R.; Colonel J. J. Astor, former Director, G.W.R.; Sir Frederick Bain, lately President, F.B.I.; Sir Donald Banks; Mr. J. Benstead, Deputy-Chairman, British Transport Commission; Mr. D. Blee, Member, Railway Executive; Sir Eric Gore Browne, former Chairman, Southern Railway; Sir Charles Bruce-Gardner; Lord Burghley, former Director, L.N.E.R.; Sir Robert Burrows, former Chairman, L.M.S.R.; Sir Edward Cadogan, former Deputy-Chairman, and Mr. W. M. Codrington, former Director, G.W.R.; Mr. C. R. Dashwood, Chief Accountant, Western Region, British Railways; Sir William Fraser, former Director, G.W.R.

Mr. K. W. C. Grand, Chief Regional Officer, Western Region, British Railways; Sir Charles Hambro, former Chairman, G.W.R.; Sir Cyril Hurcomb, Chairman, British Transport Commission; Lord Latham, Chairman, London Transport Executive; Lord Leathers, former Minister of War Transport; Mr. G. F. Luttrell, former Director, G.W.R.; Mr. Oliver Lytelton, Chairman, Associated Electrical Industries.

Sir James Milne, former General Manager, G.W.R.; Sir Alan Mount, Chief Inspecting Officer of Railways, Ministry of Transport; Mr. G. E. Orton, Public Relations Officer, Road Transport Executive; Mr. C. G. Page, Secretary, London Transport Executive; Sir Edward Peacock, Director, C.P.R.; Sir W. Reardon-Smith, former Director, G.W.R.; Sir Alan Rae Smith, Deloitte, Plender, Griffiths & Company; Lord Wigram, former Director, L.M.S.R.; Sir Charles Wright, former Director, G.W.R.

SIR FREDERICK HEATON—AN APPRECIATION

Those who only knew the Chairman of the Tilling organisation in the board room were sometimes overawed by his rather abrupt manner and ill-concealed irritation at interruption or procrastination. He had a reputation, too, for ruthlessness in business which was not wholly undeserved. Like most Yorkshiremen, he was efficient himself, and expected other people to be, or take the consequences. He knew his business inside out, and, being an accountant, was, of course, a master on the financial side.

Those of us who knew him more intimately, and were privileged to have his friendship, knew that behind his outward cold reserve there was a real warmth of heart towards his fellow-men, and his many kindly actions, often unknown to most people, will long be remembered by those who were fortunate enough to benefit from them. He had, too, a "pawky" sense of humour, and to see him in his club, the centre of a happy circle of friends exchanging jokes and reminiscences, was to see a very different

man from those who only saw him as the Chairman in Crewe House.

I had the good fortune to be associated with him for the thirteen years during which I sat on the boards of a number of the Tilling companies in which the Southern Railway Company was a partner; and during those years I learned to value his advice, which was always sound, and still more his friendship, which was genuine and survived, in our case, one real difference of opinion which never left a mark on our personal relations. British transport has lost a fine brain, and many of us have lost, in him, much more than that.

JOHN ELLIOT,
Railway Administrative Offices,
Spencer Street,
Melbourne, C.I. May 13

Mr. W. W. MacArthur has been elected a Director of Craven Bros. (Manchester) Ltd.

Mr. H. P. Potts has been appointed Sales Director of B.S.A. Tools Limited, Burton, Griffiths & Co. Ltd., and the Index Automatic Machine Co. Ltd.

Mr. J. C. L. Palmer, of the Recruitment, Training & Education Office, London Transport Executive, is taking over the Honorary Secretaryship of the National Standing Joint Committee on Road Transport Education.

Mr. J. Eerdmans and Mr. E. G. Gough have been appointed Assistant Managing Directors of Thomas De La Rue & Co. Ltd. Mr. Grahame Martin Turner has been appointed a Director of that company.

South African Railways "24" Class Locomotives

(Concluded from page 582)

welded water tank has a capacity of 4,500 gal., and an unusual feature is that it is built without internal baffles. The design is based on the S.A.R. 8,000-gal. tank wagons. The bunker, which is of riveted construction, provides for 9 tons of coal, and the tender underframe is of two solebars of channel-section, stayed throughout their length. Due to the large tank and bunker capacities and restricted axle loading of 9½ tons, it was found necessary to fit six-wheel bogies. These are of the Buckeye type, similar to those supplied for the "19D" class tender, but redesigned to give minimum weight for load. The journals have plain bearings, and clasp brakes are fitted to all wheels.

Stone's electric lighting is installed, having a 150-watt Tonum E headlight, and special attention has been given to providing lighting for all controls in the cab, as well as bunker and rear lights for the tender.

Principal dimensions are as follow:—

Cylinders (2), dia. x stroke	19 in. x 26 in.
Wheels, coupled, dia.	4 ft. 3 in.
" leading truck, dia.	2 ft. 6 in.
" trailing bogie, dia.	2 ft. 6 in.
Wheelbase, engine	31 ft. 0 in.
" coupled	13 ft. 6 in.
" engine and tender, total	65 ft. 3 in.
Height, rail level to boiler centre	8 ft. 0 in.
" rail level to top of chimney	12 ft. 10 in.
Heating surfaces:—	
Tubes	1,497 sq. ft.
Firebox, including arch tubes	144 "
Total evaporative	1,641 "
Superheater	380 "
Total	2,021 "
Grate area	36 "
Boiler pressure	200 lb. per sq. in.
Weight of engine in working order	70 tons 17 cwt
Weight of tender in working order	56 tons 2 cwt
Adhesive weight	43 tons 18 cwt
Tractive effort at 75 per cent. b.p.	27,600 lb.
" " " "	31,280 lb.
Adhesive factor at 75 per cent. b.p.	3.56

British Transport Commission Statistics

Summary of the principal statistics for
the four-week period ended March 27

Number 3 of the current series of *Transport Statistics** records a decrease in March of 2,501 in the number of the Commission's employees. That brings the total reduction in staff during the first 12 weeks of 1949, to 12,784. British Railways dispensed with the services of 13,505 persons, but London Transport added 274 names to its payroll and Road Transport (Freight) took over some 3,000 staff from newly-acquired undertakings.

In February, passenger journeys originating on British Railways decreased by nearly 6 per cent.; the Southern Region was the only one with an increase in travel. Collectively, the other five Regions had 4,026,000 fewer passengers, representing a

loss of 9 per cent. The corresponding passenger takings were down 10 per cent. In the Scottish Region the decrease in carryings was no less than 22.6 per cent. and the Western Region originated 12 per cent. less journeys, though it ran nearly 12 per cent. additional coaching train miles.

Freight tonnage was 4 per cent. higher in the March period, but ton-miles rose

only 2.5 per cent., because the average length of haul was shorter. The disappointing feature of the freight figures was a decrease of 41,000 tons in merchandise forwardings, accompanied by a fall of over 5 per cent. in merchandise receipts. The total freight traffic receipts were £20,000 below 1948.

Freight train speeds improved slightly to 8.13 m.p.h. The North Eastern, Scottish and Western Regions reached an average of over 9 m.p.h., but the general level was lowered by slow movement in the Eastern and London Midland Regions. Less locomotive coal was used than in February,

STAFF

	Commission's Head Office	British Railways	London Transport	Road Transport (Freight)	Hotels & Catering	Steam- ships, Marine & Docks	Inland Water- ways	Railway Clearing House	Total
Number of em- ployees ...	173	635,235	101,050	26,315	15,937	25,153	5,237	685	809,785
Inc. or dec. ...	+8	-2,671	+111	-43	+25	+50	+35	-16	-2,501

* British Transport Commission Statistics, 1949.
Series No. 3. Period to March 27. London:
British Transport Commission. Price 1s.

1. BRITISH TRANSPORT COMMISSION TRAFFIC RECEIPTS

	Four weeks to March 27		Inc. or dec.	Aggregate to March 27		Inc. or dec.
	1949	1948		1949	1948	
	£000	£000	£000	£000	£000	£000
British Railways—						
Passengers ...	6,878	7,675	- 797	20,053	22,527	- 2,474
Parcels, etc., by passenger train ...	2,117	2,200	- 83	6,184	6,429	- 245
Merchandise ...	6,639	7,076	- 437	19,641	20,800	- 1,159
Minerals ...	2,402	2,269	+ 133	7,180	6,616	+ 564
Coal & coke ...	5,486	5,234	+ 252	16,196	15,555	+ 641
Livestock ...	98	75	+ 23	296	223	+ 73
	23,620	24,529	- 909	69,550	72,150	- 2,600
Steamships ...	490	485	+ 5	1,479	1,421	+ 58
London Transport						
Railways ...	1,120	1,126	- 6	3,345	3,374	- 29
Buses & coaches ...	2,295	2,349	- 54	6,816	6,907	- 91
Trams & trolleybuses ...	820	846	- 26	2,443	2,517	- 74
	4,235	4,321	- 86	12,604	12,798	- 194
Road Transport (Freight)—						
Freight charges, etc. ...	1,486	—	—	4,182	—	—
Inland Waterways ...	155	147	+ 8	473	415	+ 58
Hotels & Catering ...	942	949	- 7	2,786	2,828	- 42

though more train miles were worked; however, consumption per engine mile was still heavy at 66.4 lb.

Both the tonnage and ton-mileage of Inland Waterways decreased to some extent in March, but there was a small increase in receipts. The continuous decline in London Transport's business is a serious matter. The loss of 3,882,000 passengers, in spite of the running of 1,382,000 extra car miles, reduced the March takings by £71,000, more than three times the February fall in takings.

ASSOCIATED ELECTRICAL INDUSTRIES.—Total group profits of Associated Electrical Industries for 1948 were £6,432,878, an increase of £1,792,939 on the 1947 figure of £4,639,939. Group trading profits were £1,766,908 at £6,219,892 and dividends and miscellaneous profits were up by £26,031 at £212,986. Consolidated net profits show a rise of £964,197 at £2,525,893 after provision of £832,580 for depreciation and £2,886,079 for taxation. The company has an issued capital of £8,669,240, including £6,000,000 ordinary stock.

2. BRITISH RAILWAYS

(A) Passengers Journeys Originating in the Month of February

	Region						Total
	London Midland	Western	Southern	Eastern	North Eastern	Scottish	
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Ordinary fares ...	1,096,000 (-18.00)	477,000 (-21.56)	1,507,000 (-8.92)	529,000 (-16.32)	119,000 (-21.22)	236,000 (-41.53)	3,964,000 (-17.18)
Monthly return ...	4,576,000 (-22.80)	1,219,000 (-35.69)	5,406,000 (-20.76)	1,301,000 (-23.10)	308,000 (-45.66)	638,000 (-55.97)	13,448,000 (-26.73)
Excursion, weekend cheap day, etc. ...	2,106,000	1,264,000	2,495,000	593,000	514,000	728,000	7,700,000
	(+248.58)	(+237.23)	(+284.16)	(+264.80)	(+247.18)	(+180.61)	(+250.25)
Workmen ...	6,967,000 (-0.38)	1,670,000 (-11.38)	5,956,000 (+0.25)	1,612,000 (-4.67)	872,000 (-9.67)	883,000 (-20.09)	17,960,000 (-3.34)
Other descriptions ...	1,065,000 (-19.21)	664,000 (-28.38)	1,129,000 (-17.92)	484,000 (-25.42)	247,000 (-28.79)	302,000 (-26.21)	3,891,000 (-22.58)
Season tickets ...	4,578,000 (-14.24)	1,444,000 (-27.80)	8,280,000 (+0.90)	1,524,000 (-10.42)	449,000 (-19.13)	1,438,000 (-21.51)	17,713,000 (-9.78)
Total ...	20,388,000 (-5.25)	6,738,000 (-12.37)	24,773,000 (+0.50)	6,043,000 (-7.42)	2,509,000 (-8.24)	4,225,000 (-22.61)	64,676,000 (-5.69)

(B) Freight Tonnage Originating

	Region						Total
	London Midland	Western	Southern	Eastern	North Eastern	Scottish	
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Merchandise ...	1,368,000 (-3.12)	815,000 (-1.72)	277,000 (+5.52)	686,000 (+0.25)	580,000 (-4.84)	682,000 (-4.76)	4,408,000 (-0.91)
Minerals ...	1,662,000 (+3.42)	707,000 (+7.21)	122,000 (-14.01)	725,000 (+9.89)	831,000 (+4.19)	637,000 (+2.02)	4,684,000 (+4.32)
Coal & coke ...	4,352,000 (+6.34)	2,085,000 (+4.88)	268,000 (-5.47)	2,256,000 (+10.69)	2,521,000 (+6.61)	1,687,000 (+2.57)	13,169,000 (+6.10)
Livestock ...	13,000 (+20.72)	9,000 (+10.23)	2,000 (+27.78)	5,000 (-26.56)	4,000 (+12.50)	23,000 (+11.88)	56,000 (+9.37)
Total ...	7,395,000 (+3.83)	3,616,000 (+3.76)	669,000 (-2.96)	3,672,000 (+8.35)	3,936,000 (+4.26)	3,029,000 (+3.00)	22,317,000 (+4.28)

(C) Net Ton Miles

	Region						Total
	London Midland	Western	Southern	Eastern	North Eastern	Scottish	
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Merchandise & livestock ...	196,205,000 (-3.63)	110,977,000 (-2.42)	26,958,000 (+13.89)	87,825,000 (-1.24)	53,162,000 (-2.42)	92,470,000 (-3.84)	567,597,000 (-2.23)
Minerals ...	137,135,000 (+3.00)	79,562,000 (+18.12)	14,398,000 (-4.30)	89,313,000 (-4.15)	35,712,000 (+0.17)	43,582,000 (-3.93)	399,702,000 (+2.55)
Coal & coke ...	310,593,000 (+7.92)	142,265,000 (+9.24)	26,303,000 (+1.58)	178,169,000 (+3.71)	70,255,000 (+4.40)	72,760,000 (+4.18)	800,345,000 (+6.31)
Total, all classes of traffic ...	643,933,000 (+3.10)	332,804,000 (+6.90)	67,659,000 (+4.72)	355,307,000 (+0.40)	159,129,000 (+1.08)	208,812,000 (-1.21)	1,767,644,000 (+2.58)

(D) Train Miles

	Region						Total
	London Midland	Western	Southern	Eastern	North Eastern	Scottish	
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Coaching train miles—							
Steam—							
Loaded ...	3,981,000 (+2.56)	2,950,000 (+12.22)	1,458,000 (+9.45)	2,551,000 (+11.59)	970,000 (+3.74)	1,718,000 (+0.43)	13,628,000 (+6.68)
Empty ...	112,000 (-2.90)	120,000 (+1.53)	40,000 (+2.88)	90,000 (+5.06)	39,000 (+9.23)	48,000 (-16.45)	449,000 (-0.51)
Total, loaded & empty ...	4,093,000 (+2.40)	3,070,000 (+11.76)	1,498,000 (+9.27)	2,641,000 (+11.35)	1,009,000 (+3.94)	1,766,000 (-0.12)	14,077,000 (+6.44)
Electric—							
Loaded ...	426,000 (+9.13)	—	2,947,000 (+13.17)	21,000 (-60.88)	92,000 (+4.70)	—	3,486,000 (+11.17)
Empty ...	19,000 (-7.09)	—	62,000 (+8.18)	2,000 (-8.20)	9,000 (-8.96)	—	92,000 (+2.46)
Total, loaded & empty ...	445,000 (+8.34)	—	3,009,000 (+13.07)	23,000 (-58.93)	101,000 (+3.26)	—	3,578,000 (+10.92)
Freight train miles							
Loaded ...	3,101,000 (+1.60)	1,818,000 (+8.14)	536,000 (-2.60)	1,716,000 (+2.33)	973,000 (+5.92)	1,462,000 (-2.64)	9,606,000 (+2.40)
Empty ...	564,000 (+4.54)	212,000 (+3.59)	15,000 (+15.88)	373,000 (+11.95)	221,000 (+15.98)	201,000 (-3.08)	1,586,000 (+6.56)
Total, loaded & empty ...	3,665,000 (+2.04)	2,030,000 (+7.64)	551,000 (-2.19)	2,089,000 (+3.93)	1,194,000 (+7.64)	1,663,000 (-2.69)	11,192,000 (+2.97)
Total coaching and freight train miles—							
Loaded ...	7,508,000 (+2.49)	4,768,000 (+10.62)	4,941,000 (+10.11)	4,288,000 (+6.74)	2,035,000 (+4.79)	3,180,000 (-0.96)	26,720,000 (+5.64)
Empty ...	695,000 (+3.11)	332,000 (+2.78)	117,000 (+7.33)	465,000 (+10.71)	269,000 (+13.98)	249,000 (-6.39)	2,127,000 (+4.88)
Total, loaded & empty ...	8,203,000 (+2.54)	5,100,000 (+10.08)	5,058,000 (+10.06)	4,753,000 (+7.11)	2,304,000 (+5.79)	3,429,000 (-1.38)	28,847,000 (+5.59)

(E) Freight Train Miles per Train Hour

Region												Total	
London Midland		Western		Southern		Eastern		North Eastern		Scottish			
1949 6-81	1948 6-61	1949 9-37	1948 8-82	1949 8-85	1948 8-70	1949 7-88	1948 7-58	1949 9-95	1948 9-43	1949 9-52	1948 9-34	1949 8-13	1948 7-83

(F) Locomotive Coal Consumption

	Region						Total
	London Midland	Western	Southern	Eastern	North Eastern	Scottish	
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Tonnage consumed ...	373,000 (+0.19)	190,000 (+10.71)	78,000 (+7.30)	216,000 (+1.80)	99,000 (+6.01)	179,000 (-3.09)	1,135,000 (+2.54)
Lb. per engine mile ...	68.99 (-1.34)	55.66 (+2.37)	57.83 (+4.29)	69.76 (-2.27)	67.14 (+2.27)	76.16 (-1.13)	66.41 (-0.49)

(G) Rolling Stock Position

	Operating position	Number under repair	Serviceable stock	Serviceable stock in 1948
Locomotives ...	19,586	3,568	16,018	16,198
Coaching vehicles ...	55,645	5,715	49,930	49,289
Freight wagons ...	1,168,061	103,187	1,064,874	1,074,092

3. INLAND WATERWAYS

Tonnage of traffic and ton-miles

	Tonnage	Per cent.	Ton-miles	Per cent.
General merchandise ...	292,000	(-8.34)	5,455,000	(-11.24)
Liquids in bulk ...	150,000	(+0.07)	3,320,000	(+23.31)
Coal, coke, patent fuel & peat ...	448,000	(-1.70)	6,267,000	(-1.81)
Total ...	890,000	(-3.70)	15,042,000	(-1.17)

4. LONDON TRANSPORT

(A) Passenger Journeys Originating

	Number	Per cent.
Railways ...	50,492,000	(-0.84)
Buses & coaches ...	205,931,000	(-0.57)
Trams & trolleybuses ...	89,503,000	(-2.48)
Total ...	345,926,000	(-1.11)

(B) Rail and Road Car Miles

	Miles	Per cent.
Railways ...	18,085,000	(+4.13)
Buses & coaches ...	24,234,000	(+2.74)
Trams & trolleybuses ...	8,675,000	(+0.22)
Total ...	50,994,000	(+2.79)

British Railways Rolling Stock Building Programme

465 locomotives, 1,972 coaches, and 27,225 wagons
are to be built for British Railways during 1949

The construction of 465 locomotives, 1,972 coaches and 27,225 wagons is planned by the Railway Executive for 1949.

British Railways are to build 309 of the 465 locomotives in their own workshops, and the remaining 156 will be constructed by contractors, while of the 1,972 coaches to be built, 1,381 will be constructed in railway workshops and 591 by contractors. The figure of 1,972 is made up of 1,685 passenger and 287 non-passenger vehicles; 839 of the passenger coaches will be corridor coaches for main-line steam operation. The non-corridor stock will include 500 electric coaches—276 for the Eastern Region Liverpool Street-Shenfield service (starting in November), 24 for the Sheffield-Manchester suburban services, and 200 for Southern Region suburban services.

creasingly popular facility. Half of these will be covered containers for traffic requiring protection against the weather, and the other half open-topped containers for bricks, tiles, and so on.

Details of types of locomotives, coaches and wagons and the number of each to be constructed, and the builders, are given below.

Electric Vehicles for B.T.C.

"When I was Chairman of the Electricity Commission I advocated greater use of electric vehicles," said Sir Cyril Hurcomb, Chairman of the British Transport Commission, at the annual luncheon of the Electric Vehicle Association on May 18.

	Eastern and North Eastern Regions	London Midland Region	Southern Region	Western Region	Contractors	Total
LOCOMOTIVES						
4-6-0 Class "5" ...	—	32	—	—	—	32
4-6-0 "Castle" ...	—	—	—	10	—	10
4-6-0 "Hall" ...	—	—	—	10	—	10
4-6-0 Class "B1" ...	18	—	—	—	10	28
4-6-2 Class "A1" ...	28	—	—	—	—	28
4-6-2 "Merchant Navy" ...	—	—	2	—	—	2
4-6-2 "Battle of Britain" ...	—	—	15	—	—	15
2-6-2 tank ...	—	30	—	10	—	40
2-6-4 tank ...	—	30	—	—	24	54
2-6-0 Class "4" ...	—	27	—	—	—	27
2-6-0 Class "K1" ...	—	—	—	—	70	70
0-6-0 tank ...	15	—	—	45	50	110
"Leader" class tank ...	—	—	5	—	—	5
350-h.p. diesel ...	—	13	—	—	—	13
800-h.p. diesel ...	—	—	—	—	1	1
Diesel-mechanical shunter ...	—	—	1	—	—	1
Diesel-electric shunter ...	—	—	—	1	—	1
350-h.p. diesel-electric ...	—	—	15	—	—	15
Main-line diesel-electric ...	—	—	2	—	—	2
Gas turbine ...	—	—	—	—	1	1
	61	132	40	76	156	465
COACHES						
Steam stock						
First-class, third-class, and composite ...	180	443	222	109	291	1,245
Restaurant, buffet, and kitchen cars ...	14	—	8	—	—	22
Sleeping cars ...	1	—	—	4	—	5
P.O. sorting vans ...	6	7	—	—	—	13
Luggage vans, fish vans, carriage trucks, etc. ...	66	90	21	10	—	187
Electric stock						
Motor coaches ...	—	—	100	—	—	100
Trailer coaches ...	—	—	100	—	—	100
100 3-car sets ...	—	—	—	—	300	300
	267	540	451	123	591	1,972
WAGONS						
Open ...	2,350	327	1,627	50	—	4,354
Covered ...	—	2,920	750	496	—	4,166
Bolster ...	700	350	—	50	—	1,100
Plate ...	250	74	—	—	—	324
Cattle ...	1,100	150	150	400	100	1,900
Mineral ...	1,700	1,333	—	—	10,215	13,248
Special ...	27	68	—	52	17	164
Fish ...	400	—	—	—	—	400
Brake vans ...	290	325	—	112	—	727
Service vehicles ...	1	160	49	558	74	842
	6,818	5,707	2,576	1,718	10,406	27,225

Of the 27,225 wagons scheduled for construction 16,819 will be built in railway workshops and the remainder, 10,406, by contractors. To meet the needs of particular industries 1,424 special wagons will be built for the conveyance of steel and long timber, and of 13,248 coal and mineral wagons, 4,601 will be of the hopper type with bottom doors for quick discharge.

The Railway Executive also will construct in its own workshops 2,900 containers to meet the requests of traders for this in-

creasingly popular facility. Half of these will be covered containers for traffic requiring protection against the weather, and the other half open-topped containers for bricks, tiles, and so on.

Details of types of locomotives, coaches and wagons and the number of each to be constructed, and the builders, are given below.

His present interest in this matter as Chairman of the B.T.C., was that of owner and operator of road vehicles. The main interest of the B.T.C. was in long-distance haulage, that is, hauls of over 40 miles, but it had a substantial business over shorter distances. Types of vehicle which proved suitable for delivery of coal and provisions might well be of use in parcels delivery. Haulage activities by road were entrusted to the Road Transport Executive, to which the business of Carter Paterson, Pickfords

and many other well-known firms had been transferred. But the Railway Executive also employed on short-distance work a substantial number of road vehicles for collection and delivery services. At present it operated nearly 30 electric road vehicles on cartage work and they had been considering an extended use.

The former railway companies had conducted experiments which satisfied them that although a higher initial capital outlay was involved, the total running costs of electric vehicles could be lower than the comparable cost of petrol vehicles for certain forms of railway work. As a result, certain manufacturers had been invited to interest themselves in the production of electric vehicles specially suited to railway requirements. Particular attention was being given to the evolution of an electrically-driven "mechanical horse," in view of the well-known advantages of this type of articulated vehicle for railway work. Two prototypes had been produced, both of which were now being tried out on railway delivery and collection. Another firm was converting a 3-ton mechanical horse to electric traction.

One of the leading makers also had in hand the production of two capacities of parcels van which would be put into experimental service when completed. Other manufacturers were producing electric vehicles which were in varying degrees of interest.

Although manufacturers had been willing to incur some expenditure on these prototypes, it was thought that British Railways should purchase some experimental vehicles. The Railway Executive therefore had authorised recently the purchase of six experimental battery-driven electric vehicles. When these had been delivered, there would be, in addition to the vehicles in regular use, some eight new experimental models at work. It was proposed to spread the operation of these units so that each Region gains experience of their use.

The railways still had over 7,000 horses at work, and many of these would be retired as soon as the most economical mechanical substitute was found. In addition, there might be among the fleets a considerable number of petrol-driven vehicles employed on rounds of collection and delivery which might be replaced by suitable electric vehicles as and when they become due for replacement if that is the best and cheapest course.

INTER-RAILWAY FIRST-AID COMPETITION.

The Inter-Railway First-Aid Competition, 1949, was held at Central Hall, Westminster, on May 20. The winning men's team was Horsham No. 1 (Southern Region) with the runners-up in the following order: Exmouth Junction No. 2 (Southern Region); Bristol D.S.O. (Western Region); Camden "A" (London Midland Region); Newport "A" (Western Region); York Carriage & Wagon Works (North Eastern Region); Derby (London Midland Region); New England Loco. (Eastern Region); Doncaster Traffic "A" (Eastern Region); Acton Works "A" (London Transport); Newcastle Central (North Eastern). The women's competition was won by Swindon "A" (Western Region). The challenge shield and prizes were presented by the Marchioness of Carisbrooke, G.B.E. Among those present were Sir Eustace Missenden, Chairman of the Railway Executive, Lord Latham, Chairman of the London Transport Executive, and Sir Bertram Ford, Director of the St. John Ambulance Association.

Parliamentary Notes

British Transport Commission Bill

The London County Council, Harrow Urban District Council, Uxbridge Urban District Council, the Conservators for the Regulation of Oxshott Heath, Esher Urban District Council and the Gas Light & Coke Company have withdrawn their petitions against the British Transport Commission Bill, which is now unopposed.

Transport and Communications in Scotland

A Government White Paper on Industry & Employment in Scotland in 1948 has been presented to Parliament by Mr. Arthur Woodburn, Secretary of State for Scotland.

The section dealing with basic services contains the following information on transport and communications:—

RAILWAYS

Following the merger of the Scottish Sections of the L.N.E.R. and L.M.S.R. companies to form one of the six Regions of British Railways, the administration of the commercial, operating, motive power, civil engineering and signal and telecommunications departments has been reorganised, and the number of district administrative centres has been reduced from 37 to 27. This has simplified the arrangements for inter-departmental working and commercial contact with the public.

The exceptionally severe storm on August 12 caused great damage to the railway system north of Berwick. Several bridges were destroyed and the main East Coast line was closed. The Railway Executive put in hand urgent remedial measures to reopen the lines to traffic as soon as possible. In this work the Scottish Region had engineering assistance from other Regions and the Army also assisted in the erection of temporary bridges.

The main line was reopened on October 24 for goods traffic and on November 1 for express passenger traffic. The British Transport Commission has approved expenditure, provisionally estimated at £720,000, on restoration work including a contract for bridge work at a cost of £121,525.

During 1948 three works schemes costing over £400,000 were in progress to provide for:—

- (a) Completion of modernisation of Polmadie Motive Power Depot, Glasgow;
- (b) Increased capacity for wagon repairs at Germiston Works, Glasgow; and
- (c) Increased capacity for locomotive repairs at St. Rollox Works, Glasgow.

Further schemes are being prepared to improve marshalling yard facilities in Fife at a cost of more than £300,000. These schemes will provide the increased facilities required in connection with the development of the Fife coalfield.

ROAD PASSENGER SERVICES

Further improvements were secured in services in the outer islands and new services were introduced on a number of rural routes. In the County of Fife new services were instituted linking new housing areas with collieries in the developing coalfield.

Improvements in urban services continue, but difficulty in the supply of new vehicles is a brake on substantial progress. The disastrous floods in the south-east in August caused considerable interruption to rail and road services, and

emergency road passenger services were immediately introduced.

GOODS TRANSPORT BY ROAD

Road transport throughout the year was adequate to meet all demands for essential services. Heavy demands were met for vehicles for use in the repair of damage done by the August floods, and additional petrol was made available to ensure the maintenance of deliveries of food and other essential supplies over emergency routes.

The number of special type vehicles licensed and in use for the conveyance of lime to farms for direct spreading on the land has very much increased.

The Road Haulage Organisation of the Ministry of Transport came to an end in Great Britain generally on September 30, 1948, since when Government Departments which use road transport have arranged its hire direct with hauliers or with the Road Transport Executive of the British Transport Commission. The Road Transport Executive have appointed a Divisional Manager (Freight) with an office in Glasgow and have set up District Offices in Edinburgh, Aberdeen and Dundee. So far the Division controls 23 haulage undertakings with 960 motor vehicles and 440 horses, which serve all the principal traffic centres in Scotland. It is expected that by the end of 1949 286 undertakings will have been acquired with a fleet of about 4,500 vehicles.

COASTWISE SHIPPING SERVICES

The coasting liner companies have acquired some new tonnage, and coasting tramp vessels have continued to find full employment in the movement of essential cargoes.

The Government has continued to assist the provision of steamer services to the Western Highlands and Islands, paying to the operating company, David MacBrayne Limited, a subsidy of over £200,000 during the year. The company has been able to improve the services by the introduction of a new cargo steamer, the *Lochbroom*, 325 gross tons, and by the re-engining of the *Lochearn*. The *Lochmor* is also being re-engined. A new contract providing for the continuance of these essential transport services was negotiated with David MacBrayne Limited and laid before the House of Commons in February, 1949. The agreement requires approval by way of a Resolution of the House of Commons before coming into force.

The steamer services of the Clyde & Campbeltown Shipping Company have continued to receive assistance from the Government under the Ministry of Transport scheme for equating rail and steamer freight rates. The Glasgow to Ardrishaig steamer service operated by this company has been discontinued because it was uneconomic. Additional road services have, however, been provided.

CENTRAL AFRICAN TRANSPORT TALKS.—A conference on transport of Central Africa opened at Lisbon on May 24. British, Portuguese, French, Belgian, and the South African Governments are represented at the conference and the United States has sent observers.

BRUSSELS JUNCTION COMPENSATION CLAIM.—An agency report states that the city of Brussels is claiming 500,000,000,000 Belgian francs (about £28,500,000 sterling) from the Belgian State as compensation for damage caused by the construction of the nearly completed junction railway which cuts through the centre of the city.

Staff & Labour Matters

N.U.R. Wages Claim

No agreement was reached at the meeting on May 19 between the Railways Staff Conference and the National Union of Railwaymen, when talks were resumed on the Union's latest application for a wage increase of 10s. a week and payment of time-and-a-quarter for Saturday afternoons. As a result the N.U.R. have asked the Minister of Labour to intervene. Meanwhile the following statement has been issued by the Railway Executive:—

"The claim was received by the Railway Executive from one trade union, namely, the National Union of Railwaymen, only seven weeks after a decision had been reached by the Railway Staff National Tribunal rejecting a claim from the same union for an increase of 12s. 6d. per week for railway staff. The National Union of Railwaymen had already agreed that the decision of the tribunal on this 12s. 6d. claim should be accepted as final and binding, yet, within a matter of a few weeks, the present claim, which is alleged to be a new one but which differs only in the amount of advance claimed and includes a request for additional payment for Saturday work, has been submitted.

"In addition to this particular claim the National Union of Railwaymen have submitted claims on behalf of large sections of the staff for improvements in general conditions of service and/or rates of pay on no less than thirteen occasions since June, 1948. Each of these claims can be regarded as being of a major character in view of the number of grades of men involved. It should be made clear that other railway trade unions were associated with certain of these claims.

"In view of the decision of the Railway Staff National Tribunal on the claim for an advance of 12s. 6d. per week, the Railway Executive expressed considerable surprise at receiving the present claim. The financial position of British Railways was fully dealt with before the Railway Staff National Tribunal on the claim for 12s. 6d., and since the decision of the tribunal rejecting the claim, the published traffic figures clearly indicate a further downward trend. The latest submissions of the National Union of Railwaymen were, however, considered with very great care and a reply made to the union stating fully the reasons why the claim could not be conceded.

"The Executive did, however, indicate to the National Union of Railwaymen that, despite the difficulties that are being faced by British Railways today, they desired to show a helpful attitude and indicated that provided the present claim was abandoned they were prepared favourably to consider, with all the trade unions concerned, improving in a moderate way the present minimum rates of pay and at the same time they were also prepared further to discuss other claims in which all parties were mutually interested.

"It may here be noted that the Railway Executive must have regard to the position of the other railway trade unions in addition to the National Union of Railwaymen as they are all signatories to the national agreements covering the rates of pay and conditions of service.

"A further meeting was held with the National Union of Railwaymen on May 19 when the trade union made it clear that it was not prepared to agree to the Railway Executive's proposal and clearly indicated that it must have an appropriate increase in rates of pay for all staff in the railway service. In view of the foregoing, the Railway Executive considers that this request in

the present circumstances of British Railways cannot be conceded."

North Eastern Region Dispute

Locomotive drivers and firemen in the North Eastern Region of British Railways staged a 24-hour token strike on Sunday, May 22, in protest at the re-introduction of lodging turns on east coast long-distance trains. As a result main-line services on sections of the east coast group of lines were seriously affected as well as local services in the North Eastern Region. Normal working was resumed after 12 midnight, Sunday, but the men have declared their intention to hold Sunday strikes until the system is abolished.

In consequence of the refusal of engine-men at Heaton and Gateshead to undertake the required rosters, the Railway Executive decided to postpone the introduction of some of the improvements in train services on the east coast route.

The four trains affected are the new day services leaving Kings Cross for Newcastle at 9.40 a.m., and Newcastle for Kings Cross at 12.20 p.m., with intermediate stops only at York and Darlington in each direction; and the alteration of the sleeping car expresses leaving Kings Cross at 10.10 p.m., and Edinburgh Waverley at 9.35 p.m., which were to have run non-stop as between Kings Cross and Newcastle and vice versa.

As a result of the postponement of the day trains, passengers will be accommodated in the 10.0 a.m. and 10.5 a.m. trains from Kings Cross, and in the case of the night trains the winter arrangements are being temporarily continued.

In expressing regret for the inconvenience thus caused to the public at a time when great efforts are being made to improve British Railways services the Railway Executive states that negotiations will continue with the trade unions.

Mr. W. P. Allen, Member of the Railway Executive, presided on May 24 at a meeting attended by union representatives, and the meeting was continued on the following day.

SKAL CLUB OF MANCHESTER.—The Skat Club of Manchester, the present membership of which is 92, has elected the following officers and members of the council for 1949:—President: Mr. R. C. Flowerdew; Vice-President: Mr. W. H. Eccles; Honorary Secretary: Mr. B. Bywater; Honorary Treasurer: Mr. C. S. Robinson; Honorary Auditor: Mr. E. D. Stephenson; Honorary Press Representative: Mr. N. Mottershead; members of the council: Messrs. C. S. Alden, G. A. Dykstra, J. Farber, A. Fleming, W. H. Lucas, G. F. Rudd, L. R. Stanton, W. Swarbrick.

INSTITUTES OF MANAGEMENT AND INDUSTRIAL ADMINISTRATION.—The British Institute of Management and the Institute of Industrial Administration have agreed to merge. The merger will be effected in two stages, during the first of which the Institute of Industrial Administration will retain its separate identity and its professional activities will continue unchanged, but its executive management, subject to the policy control of its own council, will be undertaken by the staff of the British Institute of Management. The merger will be completed in two or three years. Meanwhile the British Institute of Management will encourage those requiring professional qualifications in management to join the Institute of Industrial Administration.

Notes and News

Quantity Surveyor Required.—A quantity surveyor, capable of writing specifications for civil engineering works, is required by a London drawing office. See Official Notices on page 595.

Designer Draughtsman Required.—A London drawing office requires a designer draughtsman capable of undertaking calculation in reinforced concrete and steel frames. See Official Notices on page 595.

R.H.A. Annual Luncheon.—Sir Cyril Hurcomb, Chairman of the British Transport Commission, will be the principal guest at the annual luncheon of the Road Haulage Association, to be held at Grosvenor House, Park Lane, London, W.1, on Wednesday, June 22. He will propose the toast of the R.H.A., to which Mr. B. G. Turner, the National Chairman, will respond.

French Railway Posters.—We have received from French Railways Limited, 179, Piccadilly, London, W.1, copies of some attractive posters which the French National Railways have issued to advertise travel to France. The posters, which are attractively produced, emphasise the scenic and other attractions of France for tourists.

Berlin Railway Strike.—A strike called by the Independent Trades Union Organisation has disorganised railway transport in Berlin. On May 21, twenty-one trains were held up in the Soviet zone. The strike is in support of the demand by 12,000 Berlin west sector railwaymen for their wages to be paid in West marks. As the Berlin railway network is Soviet-controlled, fares and wages are paid in East marks, including those in the western sectors. Clashes occurred between strikers and the Soviet-controlled railway police at several stations where strikers attacked strike-breakers. Emergency lorry services have been organised. Trains are now leaving for and arriving from the west, but up to 30 hr. late.

Southern Region Summer Excursions.—The Southern Region summer excursion programme includes day, half-day and evening excursions by special and ordinary trains on Sundays and mid-week, offering inexpensive travel to both town dweller and countryman. Special features for Londoners include "Ramblers Excursions" on certain Sundays throughout the summer to well-known country places, including Boxhill and Haslemere, and conducted tours and river trips to Windsor. Cheap "Runabout" tickets giving a week's unlimited travel will be available to holiday makers in twelve south coast areas. Cheap tickets for county cricket matches will be issued by all trains from all stations within a distance by rail of 30 miles from the club grounds.

North Eastern Region Services.—The summer timetable of the North Eastern Region includes more than 250 additional trains. They include: 4.5 p.m. Fridays only from Newcastle to Penzance; 9 p.m. Fridays only Newcastle-Paignton; 8.5 a.m. Newcastle-Paignton; and 12.20 p.m. York-Swansea; on weekdays at 12.20 p.m. and Saturdays at 12.10 a.m. there is a Newcastle-Stranraer boat train. On Saturday mornings there are through trains from South Shields, Sunderland, and West Hartlepool via Tebay to Blackpool, and from Redcar to Glasgow via Newcastle. The pre-war 10.5 a.m. Whitby-

Kings Cross service is restored, and for the first time South Shields and Sunderland have a through service, on Saturdays, to Kings Cross, leaving at 8.53 a.m. There will be 21 through trains on Saturday mornings from the South and Midlands to the Yorkshire Coast. Many other important additions and major alterations to existing services are listed.

Advertisement Office Manager Required.—The London ABC Railway Guide requires an experienced advertisement office manager, with a knowledge of hoteliers' requirements; ability to write good space selling letters and able to take responsibility of advertisement "make-up" essential. See Official Notices on page 595.

Liverpool Overhead Traffics.—Following a series of decreases during April, Liverpool Overhead Railway traffics for the 16 weeks ended April 24, were only £254 above those for the equivalent period of 1948. The largest setback was in the week ended April 17, when receipts at £2,594 were down by £329. Aggregate traffics at April 24 were £43,303 as compared with £43,049 last year.

Institute of Traffic Administration.—The London Centre of the Institute of Traffic Administration will hold a management-labour relations conference at Caxton Hall, Westminster, on June 1 next, commencing at 6.45 p.m. Mr. James Callaghan, M.P., Parliamentary Secretary, Ministry of Transport, has intimated his intention to be present, and Mr. Walter Monslow, M.P., and Mr. A. J. Champion, M.P., will be among the speakers. At the recent annual general meetings of the following Centres of the Institute, Chairmen were elected as shown:—London: Mr. W. Hodgson; Manchester: Mr. A. Lawes Cole; Leicester: Mr. J. Hancock; Teesside: Mr. H. L. Walker; Glasgow: Mr. J. H. Young; West Riding: Mr. W. Greenwood.

Railway Benevolent Institution.—The ninety-first annual meeting of the Railway Benevolent Institution will be held at Euston Station (room 131) on June 29 at 4 p.m., to receive the report of the board of management, grant permanent annuities to 88 widows and 12 members, and admit to school benefits one child in the Officers' Department; also to grant permanent annuities to 19 widows and 21 members in the Servants' Department; and to transact the ordinary business of the Institution. The board will appoint to contingent annuities 668 widows and 335 members in the Servants' Department, being applicants in excess of the number of permanent annuities to be granted. There will be no ballot on this occasion.

London Midland Region Summer Service.—The timing of the "Royal Scot" non-stop from Euston to Glasgow, has been cut by 25 min. The coaches are painted in the new British Railways colours, carmine and cream. There are 82 more main-line expresses from Mondays to Fridays and 330 on Saturdays only. The services include a 10.10 a.m. Euston to Glasgow serving Rugby, Crewe, and Carlisle, a new through train from Euston to East Lancashire towns at 6 p.m., the 5.5 p.m. Euston to Holyhead, accelerated by an hour, and the re-introduction of the day sailing to Ireland via Holyhead. Total weekly mileage of L.M.R. steam trains during the summer season is estimated at

OFFICIAL NOTICES

None of the vacancies on this page relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he, or she, is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

SENIOR LOCOMOTIVE DRAUGHTSMEN required in the East Midlands, experienced in the design of diesel-electric locomotives. Men with sound steam and/or electric traction experience will be considered. Reply particulars of training, experience, and salary required to: Box 337, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

FIRST PRINCIPLES OF RAILWAY SIGNALLING. By C. B. Byles. Most treatises on railway signalling are intended for the railway signal engineer, but this is an elementary treatise. Cloth, 7½ in. by 5 in. 146 pp. Illustrated. 4s. By post 4s. 3d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

THE ABC RAILWAY GUIDE of London requires an experienced Advertisement Office Manager. Knowledge of hoteliers' requirements, ability write good space selling letters and able take responsibility of advertisement "make-up" essential. Only written applications giving full details in confidence of past experience entertained.—**THOMAS SKINNER & CO. (PUBLISHERS) LTD.**, 330, Gresham House, Old Broad Street, London, E.C.2.

LONDON Drawing Office require Quantity Surveyor, capable of writing specifications, mainly for civil engineering works, but including some architectural items. Salary 10-12 gns. per week.—Box 345, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

SECTIONED PERSPECTIVE VIEW OF LOCOMOTIVE FRONT END. A notable drawing of L.M.S.R. class "7P" 4-6-2 locomotive of the latest type. Reprinted from *The Railway Gazette*, June 15, 1945. Price 2s. 6d. Post free 2s. 8d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

LONDON Drawing Office require Designer Draughtsman capable of undertaking calculation in reinforced concrete and steel frames, also in respect of general constructions. Knowledge of engineer's quantities. Possibility taking charge small group draughtsmen. Salary 10-11 gns. per week.—Box 344, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

INTERNATIONAL RAILWAY ASSOCIATIONS. Notes on the work of the various associations concerned with international traffic, principally on the European Continent. 2s. By post 2s. 2d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

STANDARD MILITARY RAILWAY BRIDGES. By F. S. Bond. A description of the different types of bridges designed for rapid erection in the field by the Allied Forces, and of the various methods employed in such erection. 28 pages. 9 in. by 12 in. fully illustrated. Paper cover. 5s. By post 5s. 2d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

1,115,742—the greatest since before the war. Over 100 L.M.R. expresses will be equipped with restaurant and buffet car services and on weekdays seats may be reserved on 101 trains—70 more than last summer.

Index Publishers New London Office.—Index Publishers (Dunstable) Limited have opened a new office, under the management of Mr. Paul Gomes, at 69, Victoria Street, London, S.W.1 (Telephone: Abbey 4411). Index Publishers compile and produce the series of local timetables issued by the London Transport Executive, and other timetable publications throughout the country.

Reduced Fares in France for University Students.—The French Railways have restored the pre-war facility whereby students of universities outside France who travel to a French university to attend vacation courses can obtain a 30 per cent. reduction in fares for their railway journey in France. Tickets at this reduced fare can be obtained in this country through the principal travel agents or from French Railways Limited, 179, Piccadilly, London, W.1, on presentation by the student of a certificate issued by the authorities of his university that he is regularly attending studies there.

Horsebox Licences for Trainers Granted.—A public inquiry was held in York in February last by Major F. S. Eastwood, Ministry of Transport Licensing Authority for Yorkshire, into an appeal by Yorkshire racehorse trainers against a decision by the Railway Executive which challenged their right to carry patrons' horses in their own motor horseboxes instead of sending them by rail. In his deferred decision, Major Eastwood has granted the trainers "B" licences with a special condition that the vehicles, when used for hire or reward, shall be only for the carriage of racehorses trained by the licence-holder at his establishment. Major Eastwood said that, although the Railway Executive was providing a good service, the "B" licences would be granted because of the greater convenience afforded by private vehicles.

North Eastern Region Weekend Service.—As a result of the unofficial strike on the North Eastern Region last Sunday over 20 main-line and long-distance cross-country trains failed to run. More than 60 local trains were cancelled and there was a complete stoppage of the Newcastle electrified services on the north bank of the Tyne. On the main line, only one service was run between York and Newcastle, namely, the 12 noon Kings Cross to New-

castle. At York this train was strengthened to pick up passengers who had arrived in York during the day from Kings Cross. This train also stopped at Northallerton and Darlington. A number of passengers for Scotland were on this train and were provided with a service forward from Newcastle. This was the only through service from London to Edinburgh during the day. In the up direction no through trains on the main line were worked between Newcastle and York.

L.M.R. Twin-Unit Diesel for Euston-Glasgow Run.—On June 1, a demonstration run will be made from Euston to Glasgow Central with the L.M.R. twin diesel-electric locomotive (Nos. 10000 and 10001), hauling the "Royal Scot" express. This will be the first occasion on which a main-line diesel locomotive has worked from England to Scotland, and, as it is intended to make the journey of 401½ miles without intermediate stops, it will also represent the longest run yet made in Great Britain with diesel-electric traction.

Locomotive Manufacturers' Association of Great Britain.—The Locomotive Manufacturers' Association of Great Britain has acquired a freehold site, with a superficial area of approximately 8,000 ft., and which is bounded by Buckingham Gate and Wilfred Street, London, S.W.1. Plans are under consideration for the erection of a block of offices comprising five floors, with an area of over 30,000 sq. ft. It is intended that the basement should be used as a garage for tenant's motorcars and it will include a turntable. It is not yet

possible to say when building can begin, but the necessary preliminary stages are being dealt with actively.

Engineers' Guild Scottish Branch.—At a meeting of professional engineers in Glasgow, convened recently by the Engineers' Guild, it was agreed to establish a Scottish Branch of the Guild with headquarters in that city, and a provisional committee was elected to deal with branch development.

"Tavern Cars" for British Railways.—At Waterloo Station, on May 25, British Railways and Hotels Executive officers and members of the press inspected the first of eight new "Tavern Car" sets, which are going into service on the Southern and Eastern Regions. They are two-car sets, one a first and third class restaurant car, the other divided into a kitchen and pantry section, and a buffet section designed to represent an old-style inn. The first of the sets, all of which are finished in the new crimson lake and cream livery, is expected to be placed in service on the "Atlantic Coast Express" as from May 30. The design is by Mr. O. V. Bulleid, Chief Mechanical Engineer, Southern Region, and the sets are being built at Eastleigh works.

Scottish Region New Services.—The Scottish Region summer timetable, operative as from May 23, shows altered departure times of certain night trains for the South from Glasgow (Central). The sleeping car expresses for London now leave Glasgow Central at 9.25, 10.10, and 10.20 p.m., and the train for Birmingham



Site in Westminster recently purchased by the Locomotive Manufacturers' Association of Great Britain

departs at 11.12 p.m. On the East Coast route from Edinburgh Waverley a new and improved design of third-class sleeping car, with single- and double-berth compartments and with full bedding and washing facilities in each compartment, will run on weekdays and Sundays on the 10.0 p.m. train from Edinburgh Waverley to Kings Cross. On Saturdays only a new cross-country train, linking Edinburgh and Lanarkshire towns and the Ayrshire Coast resorts, leaves Edinburgh Princes Street at 9.47 a.m. for Paisley (for Gourock and Wemyss Bay), Troon, Prestwick, Newton-on-Ayr, Ayr, and Heads of Ayr. Intermediate calls are made at Shotts, Holytown, Motherwell, Hamilton, and Blantyre.

Anti-Corrosion Advances.—Recent advances in British anti-corrosion research and practice are being explained and illustrated to the Associazione Italiana di Metallurgia at their meeting in Milan from May 26 to 29. Dr. J. C. Hudson, head of the British Iron & Steel Research Association Corrosion Laboratory in Birmingham, is presenting a paper on the protection of iron and steel surfaces against corrosion, and is exhibiting a short film on flame-cleaning prepared by Mr. F. Fancutt in the British Railways Research Laboratories, Derby.

Coventry Gauge and Tool Co. Ltd.—At the annual general meeting the Chairman, Mr. H. H. Harley, stated that during 1948 the firm had completed the construction of its own electric power station at a cost of £20,000. After a three-month visit to Australia, Canada, and the United States, he was sure that the best policy was to establish associated companies in the Dominions and to effect closer alliances with United States industrial organisations. They had already agreed to the purchase of a factory site near Sydney.

Vickers Limited Capitalisation of Reserves.—The Treasury has approved the capitalisation of the reserves of Vickers Limited to the extent of £6,157,742 and the application of that sum in paying up in full 12,315,484 unissued ordinary shares of 10s. each and the distribution of these shares as fully paid among the stockholders in proportion of one 10s. ordinary share in respect of each 10s. ordinary stock unit held. If the above is approved by the stockholders at the forthcoming extraordinary general meeting, the 12,315,484 existing ordinary stock units of 10s. each become of a par value of £1, being the par value of the ordinary shares of the company in issue before the capital reduction in 1926.

Forthcoming Meetings

- May 28 (Sat.).—Railway Students' Association, London School of Economics & Political Science. Visit to *News of the World*, Bouverie Street, E.C.4, at 8.15 p.m.
- May 30 (Mon.).—Indian State Railways annual dinner at the Rembrandt Hotel, Thurloe Place, London, S.W.7, at 7 for 7.30 p.m. Principal speaker, Mr. W. Hood, late General Manager, G.I.P.R.
- June 1 (Wed.).—Institute of Traffic Administration, London Centre, at Caxton Hall, Westminster, London, S.W.1, at 7 p.m. Management/Labour Conference.
- June 4 (Sat.).—Railway Students' Association, London School of Economics & Political Science. Visit to Central Line, Western Extension, London Transport Executive.

Railway Stock Market

Reports of rapidly increasing competition in the export markets have more than offset the good impression recently created by higher profits reported by leading industrial companies. It is expected that if the Labour Party conference approves the latest nationalisation proposals industrial assurance and other companies are likely to cease to abide by the dividend limitation request. British Funds have failed to move against the prevailing market trend and prices have lost further ground now that demand has fallen away. On the other hand there has been little selling. The discount in the new Malaya loan has affected the market. British Transport stocks moved back, partly owing to revived rumours of another issue of stock in the near future, and sentiment was also affected by the railway wage demands. Transport (1978-88) receded to 102, the lowest level for some time, and other nationalisation stocks also lost ground.

Capital payout plans of the San Paulo Railway came as a surprise and the market was disappointed that only 50 per cent. is to be repaid at this stage. The price of the ordinary stock was at £164 on Friday last prior to the announcement and early on Monday the price slumped to £140 before recovering to £153. The general belief is that it may be some time before outstanding claims are settled, and that, although there may be scope for capital appreciation if settlement of these claims is reasonably fair, San Paulo after the 50 per cent. capital repayment will have to be regarded mainly as an interesting speculative holding for twelve months or more. Other Brazil rails have been less active. Main business again centred on Leopoldina debentures in the belief that payout terms would have to provide par plus a full payment in respect of interest arrears. The 4 per cent. debentures, at 93½, and 6½ per cent. at 134, attracted a good deal of profit-taking after earlier

gains, but Leopoldina Terminal 5 per cent. debentures at around 107 have continued to reflect buyers. Leopoldina ordinary eased to 11 and the preference to 32 after earlier gains. Leopoldina Terminal £1 shares have moved around 4s. Great Western of Brazil £10 shares kept fairly steady around 138s. 9d.

Manila "A" debentures were 92 with the preference shares 8s. 3d. Business in United of Havana 1906 debentures was around 124. Antofagasta ordinary and preference were 8 and 55 respectively, and Mexican Railway 6 per cent. debentures 86½, while Canadian Pacific receded further to 17½. Beira Rail bearer shares held firm at 50s. 6d. There was only moderate business in road transport shares, which remained held firmly, particularly those of companies in the B.E.T. group. B.E.T. deferred fluctuated sharply and after a heavy fall made a partial recovery to £1.840.

Moderate profit taking developed in iron and steels, Guest Keen easing to 48s. 9d., and United Steel to 29s. 9d., while Babcock & Wilcox were 71s. There was little activity in iron and steel shares in the nationalisation list, although the view persists that they may have interesting possibilities. If, after all, nationalisation were not carried into effect, market prices would go above present take-over levels. Moreover, there would probably be share issues to shareholders on favourable terms to provide capital for the big expansion schemes already planned under private enterprise. Assuming nationalisation will be effected, iron and steel shares now represent an interesting option on British Funds, because they would be exchanged into a new nationalisation stock probably carrying 3 per cent. interest.

Among locomotive building and engineering shares, Beyer Peacock were 21s. 6d., Vulcan Foundry 20s. 9d., North British Locomotive 20s. 10½d., and Gloucester Wagon 51s. 9d. Wagon Repairs 5s. shares were 20s. 3d. and Hurst Nelson 75s. Charles Roberts eased to 135s.

Traffic Table of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffics for week		No. of week	Aggregate traffics to date			
				Total this year	inc. or dec. compared with 1947/48		Total 1948/9	Increase or decrease		
South & Central America	Antofagasta...	811	15.5.49	£ 66,780	+	£ 16,200	19	£ 1,327,490	+	£ 299,440
	Bolivar ...	174	July, 1948	\$28,960	-	\$69,357	30	\$471,287	-	\$301,893
	Brazil ...	...	...	...	...	...	...	...	...	...
	Cent. Uruguay ...	970	6.11.48	32,712	+	2,978	18	593,105	-	7,652
	Costa Rica ...	281	Mar., 1949	38,753	+	13,363	39	321,689	+	29,338
	Dorada ...	70	Apr., 1949	29,741	+	14,541	17	120,311	+	45,611
	G.W. of Brazil ...	1,083	14.5.49	29,100	-	2,000	19	736,600	+	11,800
	Inter. Ctl. Amer. ...	794	Mar., 1949	\$1,196,359	+	\$73,300	13	\$3,285,345	+	\$308,879
	La Guaira ...	22½	Apr., 1949	\$122,721	+	\$6,828	17	\$452,474	+	\$44,942
	Leopoldina ...	1,902	14.5.49	46,309	+	1,272	19	876,544	+	159,689
	Midland Uruguay ...	319	Sept., 1948	19,608	+	3,123	12	67,355	+	16,721
	Nitrate ...	382	15.5.49	18,601	+	6,822	19	157,827	+	46,687
	N.W. of Uruguay ...	113	Sept., 1948	5,686	-	1,213	12	16,335	+	1,989
	Paraguay Cent. ...	274	13.5.49	£109,917	+	£41,318	45	£4,671,939	+	£1,651,327
	Peru Corp. ...	1,059	Apr., 1949	233,380	+	34,097	43	2,050,151	+	323,588
	Salvador ...	100	Feb., 1949	c\$11,000	+	c\$2,000	35	c1,439,000	+	c\$7,400
San Paulo ...	153½	...	...	...	...	...	...	...	...
Taltal ...	156	Apr., 1949	7,915	-	1,755	43	88,255	+	8,175	
United of Havana ...	1,301	14.5.49	\$290,046	-	\$199,095	45	\$12,812,054	-	\$4,227,712	
Uruguay Northern	73	Sept., 1948	1,072	+	52	12	3,308	+	111	
Canada	Canadian National...	23,473	Mar., 1949	10,359,000	+	696,250	13	28,911,500	+	2,244,000
	Canadian Pacific	17,037	Mar., 1949	7,722,750	+	636,250	13	21,389,500	+	2,000,000
Various	Barsi Light*	202	Apr., 1949	41,685	+	10,957	4	41,685	+	10,957
	Beira ...	204	Feb., 1949	104,917	-	6,180	22	589,461	+	9,141
	Egyptian Delta ...	607	31.3.49	20,629	+	482	52	728,011	+	99,573
	Gold Coast ...	536	Mar., 1949	267,847	+	57,662	52	2,651,667	+	634,995
	Manila ...	...	...	...	...	...	...	...	...	...
	Mid. of W. Australia	277	Mar 1949	30,297	+	5,207	36	260,305	+	50,832
	Nigeria ...	1,900	Feb., 1949	447,782	+	51,185	44	5,211,547	+	897,747
	Rhodesia ...	2,445	Sept., 1947	643,980	+	102,833	52	6,787,603	+	612,938
	South Africa ...	13,347	30.4.49	1,477,260	+	141,316	3	6,198,258	+	503,817
Victoria ...	4,774	Jan., 1949	1,509,601	+	19,338	31	—	—	—	

*Receipts are calculated @ 1s. 6d. to the rupee.